Consultative workshop on sustainable construction value chain focusing on Purchasing power: How public procurement exerts influence throughout the construction value chain

1st July 2021

WORKSHOP REPORT

Attendees:

Full list of attendees is available in the end of the report.

Workshop objectives:

- Introduce the value-chain approach, as developed by the UNEA requested Task Group on Catalysing science-based policy action on Sustainable Consumption and Production.
  - Share the key findings on the construction sector analysis.
- Understand the role of public procurement in the construction value chain and the influence it has on various stages of the value chain.
- Understand what public procurement initiatives/solutions currently exist that address sustainability along the construction value chain to:
  - define the opportunities for their scale-up and replication;
  - identify gaps and challenges to be addressed;
  - identify actions needed by stakeholders at other stages of the construction value chain to support decision-makers in the promotion of policies that aim at reducing negative environmental impact while improving the socio-economic contributions of the construction sector.

Full presentation of the meeting is available here.

MAIN MESSAGES

- The application of the ‘Value-Chain Approach’ to analyse the construction sector showed that the key decisions are made far from where natural resources are used. While the majority of natural resource use and environmental impacts take place at the material production, construction and operation stages of the value chain, the most influential actors are governments, international organisations, financial institutions and major market players, who are primarily acting at the financing stage and the planning and design stage of the construction value chain. The key decisions made at these stages largely shape the activity along the rest of the value chain.
- As investors in the construction sector through the public procurement of buildings and infrastructure, governments can directly influence what is being built, how much is being built and
how constructions are being built through the procurement criteria they apply and the vendors they choose to engage.

- In order for the sector to transition from linear to circular, traditional public procurement processes need to encompass, and account for, the whole lifecycle - from deconstruction and renovation of existing structures and built components to (low carbon) design, and new construction using secondary materials.

- There are numerous best practice sustainable public procurement policies and tools at a national level, but there is a need for international cooperation to share best practice and collaborate to have an impact on a global scale.

- Sustainability standards and ecolabels are commonly used mechanisms for addressing a great number of environmental and socio-economic challenges throughout the construction value chain. They can provide an integrated way to accomplish a broad range of environmental goals. However, multi-stakeholder collaboration is needed to develop consistent processes applicable internationally and ensure that standards do not leave gaps and are capable of being used by the majority of the market (i.e. not restrictive or limiting procurement responses).

- Training and capacity building for procurers and construction project teams, both at an individual and institutional level, are necessary to ensure they are better able to integrate and apply sustainability requirements at the key stages within procurement and project cycles.

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**SETTING THE SCENE**

- Strengthening the science-policy interface by adopting the value-chain approach is one of the key elements in strengthening multilateral cooperation on Sustainable Consumption and Production (SCP).

- As part of this process, the One Planet network has planned a series of multi-stakeholder consultations to take place in 2021, focused on the high-impact sectors of food, construction and plastics.

- These consultations build on the findings of the One Planet-International Resources Panel Task Group on catalysing science-policy action on SCP, presented in this report “Catalysing Science-Based Policy Action on Sustainable Consumption and Production: The Value-Chain Approach and its Application to Food, Construction and Textiles”.

- This consultations series is focusing on the construction sector and dedicated to “Innovative business and policy solutions” along the construction value chain. It consists of 3 workshops focusing on how public procurement, financing, and planning & design influence the construction value chain.

- The outcome document of these workshops developed jointly with the participants will be the basis for the collaborative development of clear priorities for moving the construction sector towards SCP patterns.

- This is the first workshop of the series dedicated to how public procurement exerts influence throughout the construction value chain. Full information on the construction value chain consultations can be found here.
o The work on the value chain approach in high-impact sectors will inform further discussions on a post-2022 strategy on SCP\(^1\) lead by the UN Member States.

**VALUE-CHAIN APPROACH AND ITS APPLICATION TO THE CONSTRUCTION SECTOR**

o The One Planet-International Resources Panel Task Group on catalysing science-policy action on SCP has been established at [the request the Member States at the 4\(^{th}\) United Nations Environment Assembly](#).

o The Task Group aimed to catalyse science-based policy action on SCP, thereby providing actionable insights on the management of natural resources in relation to the 2030 Agenda for Sustainable Development. To achieve this, the task group took a sectoral focus and applied the ‘Value-Chain Approach’.

o The ‘*Value-Chain Approach*’, as developed by the Task Group, is a methodology for catalysing science-based policy action on SCP which identifies key points of intervention within economic systems to reduce natural-resource use and environmental impacts through a common agenda for action. By applying a systems lens, the socio-economic drivers and barriers that influence value chain operations of different sectors are identified, taking into account the complex feedback loops influencing the operations and behaviours of actors along the value chain. This approach shows that the key points of intervention are often not the same as those points where natural resource use and environmental impacts take place, making systems analysis essential.

o The ‘Value-Chain Approach’ identifies where the greatest opportunities for a shift to sustainable consumption and production exist, shapes corresponding actions by building on current knowledge and available data and engages the relevant actors.

o The Approach consists of three main steps:

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1. **Understand the value chain & identify key hotspots**
   - 1.a. Define the value chain
   - 1.b. Map data on natural resource use and environmental impacts
   - 1.c. Apply a systems analysis
   - 1.d. Identify key hotspots

2. **Consolidate existing action & identify opportunities**
   - 2.a. Map initiatives of all actors in relation to hotspots
   - 2.b. Identify gaps and opportunities

3. **Define a common agenda & prioritise action**
   - 3.a. Define a common agenda with all actors
   - 3.b. Identify priority actions for all actors along the value chain

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\(^{1}\) The 10-Year Framework of Programmes on SCP (10YFP) was adopted at Rio+20 for the period 2012-2022. The 10YFP is included in Agenda 2030 under SDG targets 12.1 and 8.4. The One Planet network has formed to implement the 10YFP. The Network supports the global shift to SCP and the achievement of SDG 12. The reflection on the 10YFP post-2022 was initiated by the 10YFP Board in 2020 with other lead countries of the One Planet network as a collective effort to build a post-2022 vision for multilateral cooperation on SCP. These reflections will build on the experience of the 10YFP and its One Planet network from 2012.
The Task Group has applied various steps of the ‘Value-Chain Approach’ to three high-impact sectors: food, construction and textiles.

When it comes to the sector of construction, application of Step 1 has demonstrated that: “the majority of natural resource use and environmental impacts takes place at the material production stage, the construction stage and the operation stage of the value chain. However, there is limited scope at these stages to make the needed changes for several reasons, including the informality, fragmentation, complexity and availability of options. The most influential actors along the construction value chain are governments, international organisations, financial institutions and major market players, who are primarily acting at the financing stage and the planning and design stage of the construction value chain. The key decisions made at these stages largely shape the activity along the rest of the value chain. Construction is integral to achieving the SDGs, but direction is needed to ensure actual balance between sustainable development and the transition of the sector to resource efficiency, circularity and a smaller environmental footprint. Analysis shows that governments exert significant influence along construction value chain as 1) regulators of financial markets, 2) investors in the construction sector, and 3) urban and territorial planners, and regulators of the construction sector. Governments have a strong opportunity to ensure sustainability of the construction sector through these three key levers.”

The analysis of the construction value chain identified three core challenges:

1) **What types of construction is built and used, and where**: different types of construction built in different locations and regions contribute in different ways to meeting needs of societies and achieving the Sustainable Development Goals, and can cause different pressures on the use of resources and environmental impacts.

2) **How much is being built**: the construction market is growing worldwide, which causes pressures on resources and environmental impacts. However, construction does not necessarily follow demand. For example, empty buildings and property speculation is registered in many developed countries, while there is a construction gap in developing countries.

3) **How they are built**: the impacts of construction are associated with: type and amount of construction materials used, consumption of resources in the operation of buildings, and construction and demolition processes. Changing design, construction and use practices is fundamental to use resources more efficiently and reducing environmental impacts.

What is more, governments can have major influence on the volume and type of activity in the construction sector not only indirectly through regulation of the financial and property markets, but also directly through their role as procurers of major infrastructure projects. For example, the majority of global infrastructure project investments in 2017 (83 percent of a total US $500 billion) came from the public sector including investment by government entities and state-owned enterprises (World Bank 2017).

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2 Full analysis available [here](#).
**PURCHASING POWER: HOW PUBLIC PROCUREMENT EXERTS INFLUENCE THROUGHOUT THE CONSTRUCTION VALUE CHAIN**

The discussions of the workshop focused on how public procurement influences the construction value chain. Through the discussion, a number of enablers, challenges and gaps that exist at these stages were identified.

**Opportunities & enablers**

- Working locally within a general global strategy is an opportunity to promote local materials lower environmental impacts, while allowing the market to understand where the commercial value lies in moving materials around.
- It is important to connect research, policy, data and monitoring with implementation and work in practice to learn from each other, as that is often forgotten.
- Sustainability standards and ecolabels can help integrate and address a great number of environmental and socio-economic opportunities throughout the supply-chain. They can be efficient mechanisms, and when relevant can be a unified way to accomplish a broad range of environmental goals.
- Multi-stakeholder collaboration is crucial for the development of criteria that go into standards and eco-labels.
- A specific potential of public procurement (by e.g., Environmentally Preferable Purchasing) is leveraging facilities and construction practices to lead by example with a look at how to reduce, reuse and then think about greener (e.g., recycled) materials, which in particular, can influence the environmental impacts at the materials stage and end-of-life stage of the construction value chain.
- Voluntary public procurement criteria are an opportunity to engage private actors by sending a signal to the market and thus providing an incentive for suppliers to innovate and build the required capacity.
- Case studies for sustainable public procurement should ideally provide information influencing the design, on product criteria, evaluation criteria and how contract clauses are used to improve sustainability during the construction, operation and end-of-life stages.
- Construction is not a standard product and does not only include buildings, but also other infrastructures such as railways, airports, but also energy etc. Each project is different. Much of the impact globally takes place at the material stage, but also construction and disposal stages, and mostly from the same materials and sectors (energy intensive materials, such as, cement, concrete, steel, bricks, etc.). There is a need to focus on those sectors to move forward.
- Developing sustainable procurement policies for reused and recycled materials can help jump-start the market, such as adding in specifications allowing for the use of recycled concrete, where fit for purpose, will stimulate the market for recycled products.
- Training and capacity building for procurers, at an individual, project and institutional level, not only for procurers and project managers but also for suppliers and SMEs, are necessary to ensure they are better able to integrate and apply sustainability requirements.
- It is important to involve procurers in the early stages of a construction project so that the sustainability requirements can be integrated into the project design, and not only at the tender documentation stages.
Time is an important dimension to consider when developing and implementing policies enabling sustainable public procurement practices, depending on capacities available in a particular country.

In various developed countries, the legal and policy framework has advanced in the last decade and is no longer only based on the lowest cost, but on the total value.

Mandatory integration of the social cost of carbon in procurement decisions is an enabler for scaling and mainstreaming sustainability. It is also related to the risk component: climate risk had a great impact on public budgets. There is a need to incorporate the avoided cost (such as health cost) of natural disaster that will hit infrastructures. Incorporating the cost in the risk assessment and in green procurement are two roads for scaling.

Embedding data management, such as BIM (building information modelling), helps connect different platforms and different layers of information, and therefore offers a stepped-up approach to enable transparency and enforce compliance along the value chain, from both environmental and social sustainability point of view.

Performance-based procurement or outcome-based procurement enable innovation, development of required skills and improved monitoring of performances.

As part of a sustainable recovery from the COVID-19 pandemic there is a lot of scope to bring in innovation to drive clean and digital technologies to the markets, and as a result, deliver more affordable solutions.

Construction technologies can also be used to clean brownfields and can use side streams of other industries in building products.

Building a financial and economic case for buying sustainably is essential.

Prioritise sustainable construction measures based on impacts and costs in order to balance tradeoffs.

**Challenges & gaps**

- The use of materials in construction of buildings and infrastructures has a large environmental footprint, which is difficult to reduce. Lots of buildings are demolished, and in some countries, the materials are downcycled, recycled and/or are re-used for infrastructures. This is however not yet circular, as circularity is more than recycling. In order for the sector to transit from linear to circular, public procurement processes need to be revised to encompass the whole lifecycle, from deconstruction, renovation and transformation of existing built components to design and new construction with secondary materials.

- Some sustainable public procurement obligations require a lifecycle perspective but do not specify how to do it, resulting in an informative barrier. Where relevant, there is a need to specify selective deconstruction concepts in order to prepare for reuse and align the building stock with the needs for reused materials. The end of life could become the beginning of life and second life for new buildings.

- Many small and medium-sized enterprises do not have the capacity for certain procedures such as lifecycle assessments which might be required for bidding.

- There is a lot of competition in the sustainability certification and eco-label marketplace. They have been around for a long time in the construction sector and with a wide range of approaches (cross-sector, supported by certification programmes, some are multi-attribute (project level) whilst others refer to specific products), so they need to be adequately assessed as potential tools or else
they can potentially overwhelm purchasers. There is a need to develop consistent processes applicable internationally.

- In some developing countries, sustainability standards for many product categories are still missing in the construction sector (work is being done on how to address concrete and steel, etc.). More consensus on the standards for sustainability in these sectors is needed.
- There is a challenge to incentivise administrations responsible for public procurement to use its power to adopt sustainability criteria as they are not directly responsible for operating the buildings and therefore do not benefit from it directly from an environmental and economic point of view.
- In some countries there is no policy on sustainability. There is a need to continue to influence these governments to put more focus on sustainability in their construction projects.
- There is a need to look at public procurement from a practical point of view, by looking at practice first, seeing what is needed, building a coalition that wants to work on a focused area, then looking for tools and upgrading and/or using them.
- There are many tools and much guidance, and efficacy of many of them is unknown, so there is an opportunity to analyse and catalogue different tools available for assessing sustainability impacts in the construction sector and help procurers identify the right tools at the right procurement stage.
- Many countries have produced good case study examples, but sharing information alone is not enough. There is a need to share tools and collaborate to have an impact on a global scale, especially where global supply chains are involved.
- One of the public procurement practices that negatively influences the uptake of sustainable considerations along the construction value chain is the lack of forecasting and measurement of the impacts achieved by best practice strategies and lack of communication about the benefits of those strategies. Measurement and communication should also consider the spillover effect created by the public sector, i.e., not only the government operations as governments have also contributed to shaping markets, and therefore influence the private sector and consumers.
- Another common challenge is the development of a holistic public procurement policy. The key point is the role of public procurement in re-designing a project, which should not only be about an ad-hoc adding of green public procurement criteria into specifications. Instead, it has to be more strategic and central in re-designing the project.
- In terms of retaining materials, there is a gap in understanding the ‘black box’ of materials (i.e. what has gone into various components).
- A lot of emphasis in public procurement is on end of life, and less on other strategies. However, in terms of reducing greenhouse gasses, there is a huge potential in increasing space efficiency (fewer square meters per person). The potential benefits of other circular strategies, such as end of life strategies, do not have a lot of payoffs compared to increasing the intensity of use.

**LIST OF INITIATIVES SHARED AT THE WORKSHOP**

- [Advice Letters and Resolutions from the Green Building Advisory Committee](#), U.S. General Services Administration
- [U.S. Office of the Federal Chief Sustainability Officer](#)
- **Market Integration and Transformation for Energy Efficiency (MAITREE),** USAID led four year program implemented by EDS
- **Level(s) – European Framework for Sustainable Buildings**
- **Big Buyers for Climate and Environment – Circular Construction**
- Circularity in Construction Case Studies collected by the European Commission DG GROW:
  - Finland - Procurement Criteria for Low Carbon Building
  - Italy - Compulsory Minimum Environmental Criteria (CAM) for Buildings
  - Portugal - National System for Public Procurement (ENCPE 2020)
  - Portugal - Review of the national waste management legal framework - Decree-Law no. 73/2011
  - Netherlands - Roadmap for Circular Land Tendering, Amsterdam
- **EU Interreg ProCirc Project**
- **Strategies and methods for implementing CE in construction activities in the Nordic countries,** Nordic cooperation (norden.org)
- **International Institute for Sustainable Development:**
  - Moving Towards Sustainable Performance-Based Procurement in the Western Cape
  - Public Procurement and Innovation for Low-Carbon Infrastructure
  - Toward Strategic Public Procurement in Latin America and the Caribbean
- **From Linear to Circular - First Global Mapping of Circularity in the Built Environment,** One Planet Sustainable Buildings and Construction programme
- **The challenges and potential of circular procurements in public construction projects,** EIT Climate-KIC Circular CitiesPublic Procurement of Circular Construction Materials
- **Public Procurement of Circular Construction Materials - Key takeaways from the Big Buyers Initiative working group,** The Big Buyers Initiative
- **One Click LCA,** life cycle assessment software helping to calculate and reduce the environmental impacts of building & infra projects, products and portfolio
- **Circular and Fair ICT Pact** (suggestion that the construction sector could create a similar tool)
- **Circular Construction Economy**
- **The DuboCalc** - Software tool for calculation of sustainability and environmental design variants of ground, road and water works, which is used for writing and reviewing (EMAT) procurement of civil engineering works.

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