

How to procure a zero emission construction site? Experiences from Oslo

Big Buyers webinar

February 28th, 2023

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City of Oslo



Oslo



Electric excavator, Oslo Feb. 2023. Photo: City of Oslo

City of Oslo

- ▶ Capital of Norway
- ▶ 700,000 inhabitants
- ▶ 50,000 employees
- ▶ EUR 3 billion in annual procurements and investments



Agenda

1. Why emission free construction sites?

Results from Oslo

2. Why Big Buyers?

Activities in the Working Group

3. Way forward

Joint Statement

Enabling policy framework needed

4. Lessons learned



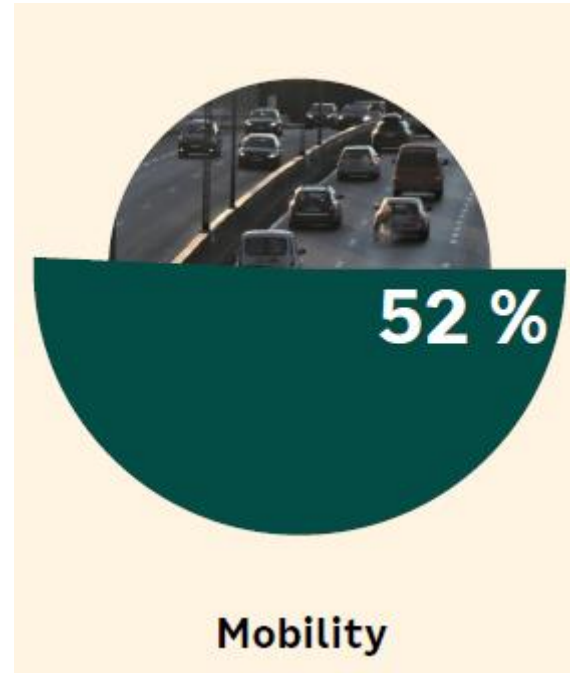
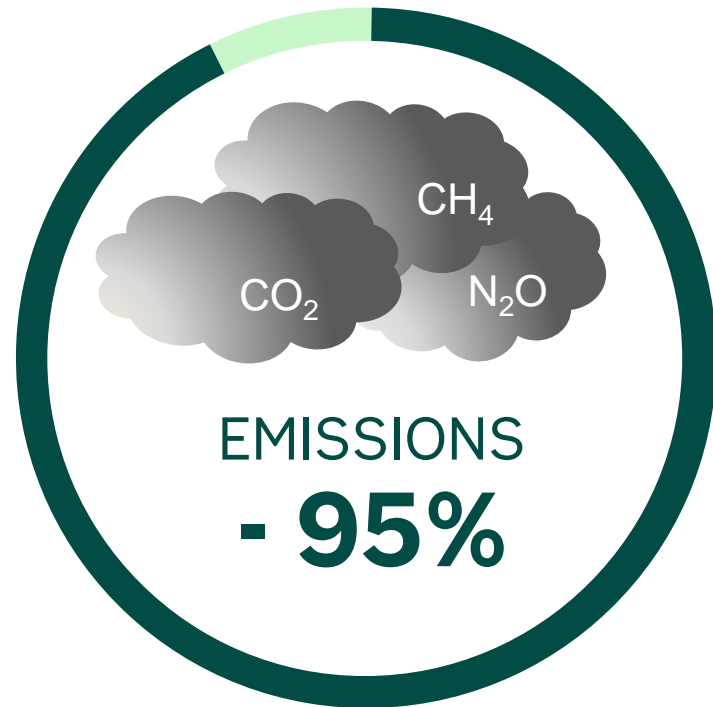
BIG BUYERS APPROACHING MARKET TO ACHIEVE ZERO-EMISSION CONSTRUCTION SITES

06 December 2021

Why construction?



Fossil free and emission free building and construction sites – an important contributor to the climate goals



Oslo's story – using the procurement muscle

- ▶ From 2016/2017 – fossil free construction pilots
- ▶ 2018/2019 world's first emission free construction site
- ▶ Late 2019 – standard requirements
- ▶ 2022 – more than 60 + projects with electrical machinery



From pilot to scale

Standard requirements in all municipal procurement of building and construction works from 2019 onward

- ▶ Machinery and transport (last mile)
- ▶ Fossil free is the minimum
- ▶ Emission free through award criteria
- ▶ From 2025 emission free will be minimum

3 Competition specification: award criteria Environment

The following text shall always be included in the competition specification:

The Supplier with the highest score on aggregate in the sub-criteria for the Environment award criteria is awarded 10 points, while a lower score is awarded to other tenders reflecting relevant differences in the tender. The score is then multiplied by the specified weighting of XX%.

GUIDELINES:

The award criteria for Environment shall as a minimum have 20% weighting for building and construction competitions (as a main rule, the Environment criterion should be weighted 30%). Minimum 50% of the total weighting for Environment shall be attributed to construction machinery and transport to/from the building/construction site. This only relates to the sub-criteria related to the award criteria for Environment, comprising direct emissions from building/construction machinery and transport in connection with building/construction work, and which shall represent minimum 50% of the award criteria for Environment, which in turn shall be weighted as minimum 20% of the entire weighting.

The other sub-criteria under the award criteria for Environment may, for example, relate to greenhouse gas emissions from production of materials (LCA/EPD), geographic location, the building's energy consumption, measures to prevent acute pollution during construction, extra protection of biotopes, greenhouse gas estimates for the entire life cycle or other relevant factors for the building/construction project in question.



Information and standard requirements in English

<https://www.klimaoslo.no/kategori/english/>

<https://www.klimaoslo.no/wp-content/uploads/sites/88/2019/11/Climate-and-environmental-requirements.pdf>

<https://www.klimaoslo.no/wp-content/uploads/sites/88/2022/01/Survey-emission-free-construction-sites.pdf>

<https://www.klimaoslo.no/wp-content/uploads/sites/88/2018/06/Veiledning-Utslippsfrie-byggeplasser-ENG.pdf>

<https://www.klimaoslo.no/collection/impact-assessment-of-zero-emission-building-processes-in-oslo/>

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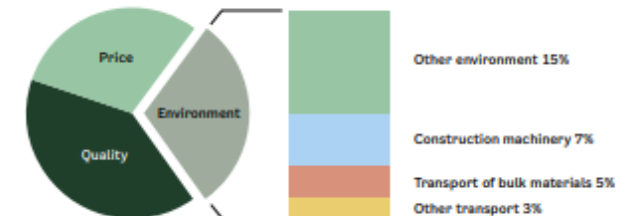
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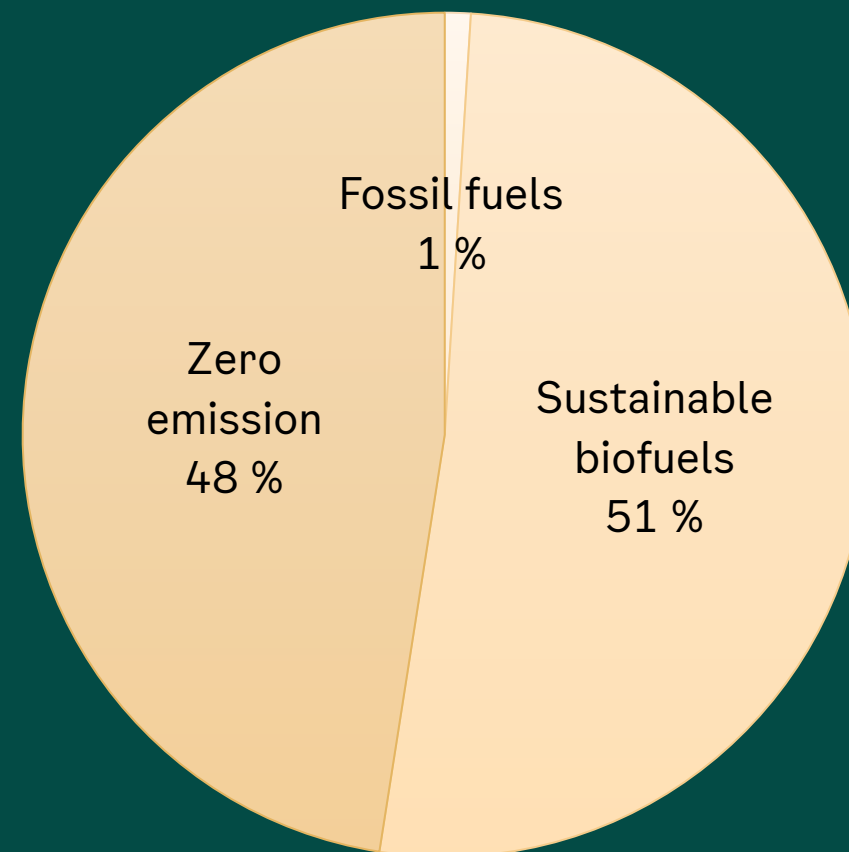
Results 2021

1 % fossile fuels - 99% fossile free
48 % electric/zero emission
51 % sustainable biofuels

From all municipal construction works combined (schools, kindergardens, nursing homes, road-, water and sewage infrastructure etc)

Annual reduction of 14 000 tons CO₂

Energy supply for public construction works in Oslo 2021



Why Big Buyers?



Joining forces, learning from each other

- ▶ EU DG Grow promotes strategic use of public procurement to drive green transition
- ▶ Oslo leads the Zemcons group
 - **Share knowledge** and lessons learned
 - **Develop pilot projects** and local policies and instruments
 - Conduct and coordinate **market dialogue** at the European level
 - **Discuss** technological issues, challenges and solutions
 - **Engage** with stakeholders to develop enabling policy framework



Joint Statement of Demand



an initiative of the Zero-emission Construction Sites working group of the Big Buyers for Climate & Environment

19 SEPTEMBER 2022

Joint Statement of Demand for Emission-free Construction Site Machinery

As public buyers, we are committed to leveraging our procurement as a tool to promote sustainable development and innovation. We aim to transition towards carbon neutrality by eliminating emissions from our construction works, whilst improving the local air quality and conditions of construction workers. The construction sector represents as much as 36% of global energy use and 39% of GHG emissions¹. This means the sector presents a clear opportunity to make a significant impact in lowering global CHG and solving local environmental problems. Cities, which largely concentrate the negative externalities caused by construction works (eg. air pollution, noise, congestion), can be frontrunners in the promotion of cleaner construction machinery, with which they can also achieve improved health and safety for workers on-site and quality of life for citizens in the surrounding area.

We acknowledge that market frontrunners need a clear and reliable signal of aggregate demand to de-risk and enable rapid scale-up of emission-free construction solutions, and that this transition must go hand in hand with the transition to and accessibility of clean energy. We are dedicated to strengthening cooperation between us as public buyers, as well as with construction machine manufacturers, contractors, and providers of supporting energy infrastructure or technology advancements for enhanced site management.

¹ Global Status Report 2022 by IAH, Environment and International Energy Agency

DEFINITIONS

Zero-emission in the context of this statement is understood as **emission-free** construction activities **within the construction site fence** (Figure 1) - meaning no exhaust emissions from any machinery in operation on site. Zero-emission solutions could be, for example, cable or battery electric NRM models.

Fossil-free in the context of this statement is understood as solutions powered without fossil fuels, such as biogas or biodiesel. Some buyers involved may use sustainability-sourced fossil-free options to reduce CO₂ emissions on their construction sites as an intermediate solution, awaiting wider market readiness of emission-free solutions and energy infrastructure transition. However, fully emission-free solutions are the end target of all.

***Notes** Emissions from machinery used on construction sites are typically one element of wider environmental criteria used by the contracting authorities. Individual buyers involved may have a broader scope for emissions considered in their procurements - for example, including transportation of materials to and from the site, embodied emissions from material extraction or production, or energy production.

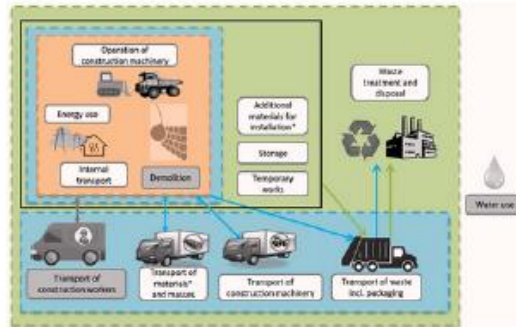


Figure 1. Definition of the scope of the system boundary (construction site fence)²

This joint statement serves to announce the aligned demand across big public buyers in Europe to procure for emission-free construction sites. We also acknowledge that existing or already planned contracts, as well as varying market availability across EU Member States and regions, may impact the timeline of achieving those ambitions.

As organisations with major annual construction contracts, we jointly declare the following ambitions, and will prioritise their procurement accordingly:

- The City of Barcelona
- The City of Bodø
- The City of Copenhagen
- The City of Helsinki
- The City of Oslo
- The City of Vantaa

We commit ourselves, with other public buyers, to support the innovation, research, development and testing of emission-free construction machinery and to support the transition.

² Impact website: <https://www.impact.org.uk>

SUPPORTING BUYERS

Individual buyer positions, if existing and with sooner timeline or greater scope:

- Oslo has included material transport to and from site within the boundary of its commitments by 2025.
- Copenhagen has made commitments to be entirely Zero-emission by 2025, using fossil-free as a transitional technology if required.
- For the Finnish signatories (Helsinki, Vantaa, Turku, Espoo, etc.) these commitments are in line with those in the Finnish Green Deal but it additionally includes heavy vehicles within the construction fence. Material transport to and from the site is included within Finnish ambitions by 2030.

Supporting buyers' annual spend on construction and Civil works (in EUR):

Organisation	Construction and Civil works procurement spend per year
COPENHAGEN	

We welcome other public buyers to join!

Collaboration between public buyers draws from collective power to accelerate and strengthen a market for emission-free construction solutions, which can subsequently be adopted by other buyers. This Joint Statement is open to other public authorities who support the above-listed ambitions. If you are interested in learning more or joining the statement, please contact Dominique Sandy (dominique.sandy@iciei.org).

Big Buyers for Climate & Environment

The core proponents of this joint statement are members of the Big Buyers working group on zero-emission construction sites, active since May 2019. The Big Buyers Initiative is a European Commission platform for promoting collaboration between big public buyers in implementing strategic public procurement. By working together to aggregate demand and jointly approach market actors, public buyers can maximise their market power and impact, promoting the creation of new solutions more targeted to their needs.

ICIEI Europe and EURO CITIES are currently running the Initiative on behalf of the [European Commission, DG Internal Market, Industry, Entrepreneurship and SMEs \(DG GROW\)](https://ec.europa.eu/commission/presscorner/detail/en/ip191201).



As organisations with major annual construction contracts, we jointly declare the following ambitions, and will prioritise Zero-emission technologies to achieve them:

- **Require fossil-free construction machinery in own public projects from 2025, with at least 20% emission-free machinery, where available.**
- **Require fossil-free construction machinery in own public projects from 2030, with at least 50% emission-free machinery, where available.**

Way forward



We must together:

- ▶ Continue to engage with stakeholders across the value chain
- ▶ Develop pilot activities and gather lessons learned
- ▶ Identify barriers and opportunities
- ▶ Today weak policy framework, lack of regulation & economic incentives at the national and EU-level
- ▶ Provide input to policy makers – EU and nationally, on how to
 - strengthen mandate to act
 - explore new technologies and solutions
 - develop enabling policy framework





So to conclude:

How to procure a zero emission
construction site?



Lessons learned

- ▶ **Speak of your ambitions!** Climate, innovation, noise reduction...
- ▶ **Dialogue with the market.** But dare to challenge!
- ▶ **Seek advice** – use available resources
- ▶ **Pilote first** – choose wisely
- ▶ **Secure power supply** – early planning is key!
- ▶ **Draft procurement documents** – feedback from market.
- ▶ **Document and share** - technical issues, practical barriers, experiences.
- ▶ **Embed into procurement strategy** - BAU



ENGLISH

Electric excavators mean zero-emissions construction sites

This year, the Olav Vs gate and Klingenberggata site will be a zero-emissions development project – thanks to electric excavators and wheel loaders. This is generating interest in Japan.

TEKST MARI FOSSEIM FOTO HAMPUS LUNDGREN → JUNI 20, 2019



Oslo

Thank you!

Philip Mortensen, Marit Hepsø
City of Oslo



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