

# Market engagement

ZERO EMISSION TRANSPORT OF CONSTRUCTION MATERIALS  
WITHIN ROTTERDAM

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# 1. Summary

Rotterdam has identified the **transportation of construction materials** as a priority area for promoting zero emission (ZE) delivery in the city, as it contributes significantly to the city's transportation emissions footprint<sup>1</sup>. The city is now exploring potential procurement strategies to drive this development. This report contains the results of the first market engagement held on January 24 and 25, 2018 in Rotterdam for emission free transport within the City of Rotterdam.

From this market engagement, attended by 10 companies (construction material manufacturers and suppliers), we conclude the following:

- Formulate a clear ZE policy 2018-2025 preferably supported by all road authorities, and communicate this policy intensively.
- Avoid just in time deliveries leading to suboptimal load factors.
- Extend contract duration to at least 7 years, where relevant to promote ZE transport.
- Apply the progressive use of electric freight vehicles (EFV) over the contract duration as an award criterion, with the requirement of 100% ZE at the end of the contract term. The fleet recognition scheme ECOSTARS<sup>2</sup> methodology may be used as a selection criterion.
- Spread knowledge about EFVs that are already available (retrofit and OEM).
- Explore the feasibility of one or more hubs, with scenarios in which they are shared by more companies and more cities.
- Require permit applicants for construction sites to add a logistics plan and introduce a policy framework with perspective on ZE logistic plans in 2025.
- Enforce commitments from contractors regarding emissions through monitoring ZE critical performance indicators during the contract period.
- Explore opportunities for tendering transportation separately instead of embedding it within the material supply contract.

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<sup>1</sup> See Rotterdam's [BuyZET transportation footprint mapping report](#), and [Initial Analysis Report](#) for more background on why this was selected

<sup>2</sup> See <https://www.logistiek010.nl/nl/programma-s/Ecostars-42>

## 2. Method

Construction material manufacturers and suppliers were invited to join the market engagement to deliberate on zero emission transport of construction materials within the city of Rotterdam by a publication on December 11, 2017 on the tender platform [www.negometrix.com](http://www.negometrix.com). Furthermore, known applicants for contracts were actively approached by the Rotterdam contract manager to inform them of the market engagement activities and encourage them to participate. Interested parties were asked to register their interest.

After signing up, parties were sent a briefing letter in which the date and location were stated and that the engagement would go into the aspects of:

- Selection criteria (minimum demands) for contractors.
- Selection criteria (minimum demands) for contracts.
- Tendering criteria for the quality of the contract.

Furthermore, parties were approached by telephone to confirm their attendance.

During the engagement, five people representing the City of Rotterdam were present:

- Paul Sahni. City of Rotterdam. Manager materials supply, responsible for the purchase of all construction materials.
- Jos Streng. City of Rotterdam. Transport planner, Zero Emission City Logistics
- Léon Dijk. City of Rotterdam. Senior Advisor Sustainable Procurement, BuyZET project manager
- Sander van Nielen. City of Rotterdam. Researcher, City of Rotterdam.
- Han van der Steen. Coriolis EPC. Consultant and project manager mobility.

Each party was invited to discuss the aspects that were stated in the letter in private meetings with the Rotterdam representatives. The city informed all parties that the interviews would not be disclosed, to ensure maximum openness. Parties were sent a one-to-one report with the conclusions of their engagement, with the possibility to respond.

## 3. Results

In total 13 market parties signed up for the market engagement. After the confirmation call, two of these parties were identified as consultancies that were only interested in the process and the content of the documentation and not in the engagement itself. These were removed from the planning. One party that signed up did not show up. Ten parties remained for the engagement.

Notes were prepared individually by all team members on each of the meetings. These notes were grouped and discussed. Because there was no clear relation between the meetings and the three aspects mentioned in the briefing letter, the notes were categorised into five areas:

1. General findings

2. Vehicles
3. Logistic system
4. Delivery process
5. Contracting

## 4. Conclusions and recommendations

### 4.1. Conclusions

1. General
  - › This market engagement raised the awareness among suppliers about the seriousness of ZE transport in Rotterdam.
  - › At this moment, not all suppliers are fully aware of the policies driving ZE transport including carbon dioxide reduction and local air quality improvement and the activities regarding ZE, including the dissemination platform Logistiek010 (<https://www.logistiek010.nl>).
  - › The year 2025 is perceived as the starting year for 100% ZE transport in Rotterdam.
  - › Suppliers said Rotterdam should co-operate with other municipalities and public commissioners for road management to align their policies and tender requirements regarding ZE transportation.
2. Vehicles
  - › EFV are considered as very expensive. Some gave an example illustrating a hydrogen freight vehicle will cost more than twice compared to as similar diesel freight vehicle.
  - › Apart from the limited availability of EFV's on the market, suppliers feel that the operational reliability of EFVs is also insufficient. They have little experience with service levels for maintenance and repair, when compared to diesel.
  - › Suppliers (especially SMEs) are reluctant to invest in EFVs, unless commissioners will enforce a serious statement of demand for ZE transportation.
3. Logistic system
  - › Suppliers have a positive mindset towards material hubs especially for handling bulk orders.
    - Hubs could serve multiple companies and multiple cities within the EFV range.
    - Hubs could be publicly owned but also run by a private company.
    - Hubs require proper management to guarantee product quality for the end-user, including management of administrative processes (shipping documents, packing slips etc.) and material handling.
  - › Transport over water is interesting for bulk freight but only for long-term deliveries and when large quantities are purchased in once
  - › Standardising products has led to less transport movements.

#### 4. Delivery process

- › Delivery
  - Demand and distribution is not homogeneous over the year, which may lead to less efficient transportation processes
  - Delivery time windows, a tight call-off period (currently 24 hours) and just in time deliveries make it difficult to combine cargo and will consequently lead to extra transport and inefficient load factors
  - Suppliers feel the ordering process could be improved, leading to a better distribution over time
- › Most suppliers hire transportation companies to deliver their goods. An incentive to optimize the delivery process is lacking as transportation costs are settled based on an average kilometre price.

#### 5. Contracting

- › Contracts of 4 years are too short to justify the purchase of EFVs, at least 7 years is better.
- › In granting permits to a construction site, a paragraph can be added with requirements for the logistics process, a "logistics plan".
- › Rewarding on progressive EFV use is a good award criterion: award 1) zero emissions ton x km at the start of the contract and 2) growth path to all ton x km ZE at the end of the contract.
- › Enforce commitments from contractors regarding emissions, eg by logging on to vehicle tracking system or registration plate on waybills. Knowing that you are being monitored makes a difference. Reporting obligation to demonstrate use of ZE vehicles.
- › Splitting the contract into a transport part and a product part can offer opportunities for logistic optimization, e.g. combining transports of different contracts together.

## 4.2. Recommendations

### 1. General

- › Formulate a clear ZE policy 2018-2025 (program, road map), preferably supported by all road authorities.
- › Communicate intensively and focused on ZE policy.

### 2. Vehicles

- › Spread knowledge about EFVs that are already available (retrofit and OEM).
- › Support (temporarily) financially the purchase or use of EFVs.

### 3. Logistics system

- › Calculate capabilities of one or more hubs, with scenarios that they are shared by more companies and more cities.
- › Determine the possibilities of transport over water.

#### 4. Delivery process

- › Proceed in a more planned and long-term manner when it comes to calling products.
- › Inform the contractor in more detail about the planning.

#### 5. Contracting

- › Extend, where ZE transport plays a role, the contract duration to at least 7 years.
- › Have permit applicants of a construction site add a logistics plan and introduce a policy framework with perspective on ZE logistic plans in 2025.
- › Apply the progressive EFV use as award criterion, with the requirement 100% ZE at the end of the contract term.
- › Enforce commitments from contractors regarding emissions.
- › Calculate whether it is better for ZE to split a contract into a part transport and a part product supply.

## 5. Follow up

From our mapping exercise, it became clear that the delivery of sand should be considered as a priority area when it comes to the overall transportation footprint of construction materials in Rotterdam. To prepare an effective procurement plan, we therefore decided to set up a new pilot project dedicated to ZE transportation of sand within the city. Currently, sand is already being delivered to a hub by a bulk vessel, and then transported to several construction sites using diesel trucks. The project will include an extensive market consultation of both building contractors and project managers to understand the logistical process and to look into the practicability and cost of ZE transportation. Depending on the outcomes, the use of an electric 28 tons truck will be evaluated during a one-year test period. The project runs from October 2018 until June 2020.

## About BuyZET

BuyZET stands for BuyZET ‘Procurement of innovative solutions for zero emission urban delivery of goods and services’.

The BuyZET project will develop innovative procurement plans to help the participating cities achieve their goals of zero emission urban delivery of goods and services.

## Partners Logos



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## Contact details

Reach us:

Visit the project website: <http://www.buyzet.eu>

Join the discussion at the BuyZET Procurement Forum Group: <https://procurement-forum.eu/>

Follow BuyZET on Twitter: [@BuyZETproject](https://twitter.com/BuyZETproject)

Join the BuyZET LinkedIn Group: [BuyZET Project](https://www.linkedin.com/groups/BuyZET-Project)

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