



Zero-emission zone roadmap for urban logistics

For municipalities



Zero Emission
Stadslogistiek

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1 Introduction

Pursuant to the draft Climate Agreement, the Netherlands is preparing to introduce zero-emission zones for urban distribution in its major cities. Many parties are making preparations to allow implementation across several cities. The provisions of the Climate Agreement set out guidelines for structured future action, both in relation to the approach in cities and regarding the number of participating cities.

The 'Green Deal Zero Emission Urban Logistics' (GDZES) is a collaboration between more than 200 parties, which aims to achieve zero emissions from logistics activities in the urban environment. This was originally a non-binding agreement. The Climate Agreement of December 2018 does set a target: a reduction of 1 megaton per year in the quantity of CO₂ emitted by urban logistics. In addition, the Climate Agreement stipulates that 30 to 40 municipalities will enforce a zero-emission zone (ZE zone) in 2025, to be announced in 2020. The central focus lies on the quality of the living environment, environmental quality and the economic potential of the city.

The draft Climate Agreement means that action to achieve the goals of Green Deal ZES must now be accelerated.

The purpose of this roadmap is to provide guidance for municipalities. Our underlying goal is to generate as much generic knowledge as possible and define a generally applicable approach, complemented by specific initiatives on aspects that are relevant to municipalities, entrepreneurs, residents and local political concerns. The preparatory work for obtaining administrative approval of the traffic byelaw required for establishing a ZE zone is one of the more important of the aspects referred to above. The roadmap in this document takes this into account and describes aspects that may be involved.

This roadmap breaks down the process for successfully introducing a municipal zero-emission zone for urban logistics into specific phases and activities, which have been strategically chosen to ensure the greatest possible chance of success. The content and structure of the roadmap are designed to ensure the legal sustainability of the final traffic byelaw that must be adopted to allow effective enforcement of the desired behaviour of logistics companies. The key points from a legal perspective are summarised in Annex A.

Setting up a ZE zone is one of the main actions that are required to successfully implement ZE urban logistics. In addition, the central government plan for an electric vehicle charging infrastructure (Nationale Agenda Laadinfrastructuur), vehicles (subsidies) and pilot schemes also play an important role in ensuring the successful introduction of ZE urban logistics.

2 Zero-emission zone roadmap for municipalities

2.1 Introduction

Based on the above, this section looks in more detail at the steps a municipality should take to introduce a ZE zone for urban logistics. The document discusses the complete roadmap first, and then zooms in on each individual step.

2.2 Roadmap

The roadmap is characterised by a converging structure. In other words, the initial steps (1a & 1b) create the basic platform for the final targeted steps that culminate in the creation of a ZE zone. This roadmap is not a blueprint for introducing a ZE-zone. It identifies the most important elements that are needed in order to be able to introduce a ZE zone.

The first two steps, which target obtaining a political mandate and gaining insight into the local situation and local logistics, do not overlap each other and can take place simultaneously. These steps provide the basis for implementing a targeted action plan that leads to the introduction of a ZE zone and possible additional measures and complimentary actions.

The following applies to the steps described below: **bold print** = crucial step, other steps are not necessarily required.

Step 1a: Substantiation, arguments and vision

- **Vision on developing the city (centre) environment leading up to 2025:**
 - quality of the living environment (noise/emissions, road safety);
 - quality and economic potential of the city centre;
 - expected trends;
 - flanking measures (e.g. parking charges).
- **Political mandate for urban logistics.**
- **Availability of sufficient local government manpower and a programme budget.**

Step 1b: Insight into the subject matter

- **Insight into the structure, efficiency and trends in relation to goods flows, urban accessibility and environmental effects.**
- **Exploratory talks with stakeholders (residents/businesses/carriers/NGOs):**
 - analyse and map the stakeholders;
 - develop a strategic and communication plan;
 - set up a consultation structure.
- Implement a number of GD ZES pilot schemes.

Step 2: Develop an action plan in collaboration with stakeholders

- Produce a vision document on the GD ZES topics:
 - fresh produce in the city;
 - deliveries to retail stores;
 - post, parcels and pallets;
 - smart deregulation;
 - construction site logistics;
 - facility flows in the city;
 - waste logistics.

Consultation round with stakeholders:

- **Facilitate market parties to ensure the viability of a ZE zone** (explanation: carriers must be physically able to deliver goods using emission-free vehicles and maintain financial viability. In other words, distribution hubs and micro hubs, charging infrastructure, bicycle logistics, etc.).
- Signature of the GD ZES.
- **Definition of a ZE zone including planning.**
- **Definition of additional sustainability measures:**
 - local government procurement;
 - subsidies;
 - ...
- **Description of responsibilities.**

Step 3: Adoption of a municipal authority decision

- Adoption of a decision that designates the ZE zone and ratifies the implementation plan.

Step 4: Adoption of a traffic byelaw

- Exemptions, enforcement and other practical aspects.

Step 5: ZE zone comes into effect

- Monitoring of effects/effectiveness.

2.3 Step 1a: Substantiation, arguments and vision

This step is the start of a process for exploring and defining the **vision on city (centre) development** leading up to 2025. Ideally, a city should have vision documents on city centre development, mobility and sustainability, which set the basic parameters for initiatives designed to make urban logistics more sustainable. If reference to a vision document of this type is not possible, a suitable vision document should be drawn up and used within the municipality as argumentation for making urban logistics more sustainable. The vision document considers the quality of the living environment, with a specific focus on accessibility, emissions that pollute the air, carbon and climate neutrality, safety and noise. The desired quality and economic potential of the city centre area in 2025 should also be identified in this vision document, based on, for example, expected trends in visitor numbers and the number of residents.

The vision document should also focus on existing policies implemented for goals that contribute to achieving zero-emission urban logistics. For example, car-free areas in the city centre, parking policy, greening public transport, or an environmental zone. However, measures that are not related to traffic management may also be relevant if they contribute to achieving targets set for the city (centre), as outlined above.

The vision document is the basis underpinning the **political mandate** for tackling the issue of urban logistics. This political mandate can also be organised in the form of a municipal authority decision, or via a citizens' initiative ratified by the municipal authority.

The next step is to ensure the availability of adequate **public employee manpower** and a programme budget. Depending on the size of the city, a staff capacity of at least 0.2 to 0.5 FTE must be available for project management. In addition, allowance must be made for input from different departments/disciplines.

Ideally, preparations for this step should be made well in advance. The ZE zone generally has a greater chance of success if the measure is thoroughly prepared.

2.4 Step 1b: Insight into the subject matter

The second step in the process for implementing a ZE zone is **gaining insight into the structure, efficiency and trends in relation to goods flows, urban accessibility and the environmental effects of urban goods transport**. After all, urban logistics encompasses many aspects of logistics as a discipline, e.g. deliveries of products and supplies to shops, hospitality establishments and offices, delivering parcels, construction site logistics and waste logistics (see Text box 1). The questions that must be answered to determine the ideal layout of the ZE zone for urban logistics include the following:

- What is the city's supply profile?
- Which segments in urban logistics are important?
- Where are the transport movements concentrated?
- What number of transport movements is involved per vehicle category and market segment?
- What are the expected trends in the future?
- What is the current impact of goods transport on the quality of the living environment and air quality in the city, and how does this compare to other factors that have an impact in these areas?
- What effect does the current policy have on the existing flows of goods?

The activities in this step need to focus on gaining an understanding of the current situation and looking ahead to important developments for the future. Examples of possible developments that could influence urban goods transport in the future include steadily increasing urbanisation, a changing retail landscape due to more fragmented deliveries (influence of e-commerce), increased e-commerce and home deliveries, new transport concepts, an increase in the number of tourism and hospitality establishments in the city and a more intense political and social focus on the quality of the living environment in the city.

Exploratory talks with stakeholders

Municipalities are advised to engage in **discussions with stakeholders** at an early stage in order to analyse their interests and create support. Support is important and can be created through coordination and mutual understanding. The following are important parties that should be involved in these stakeholder discussions: residents, companies/shopkeepers, carriers, industry associations and NGOs. The specific stakeholders may differ depending on the city in question, so it is important to analyse and map all the relevant stakeholders first. Having done so, the next step is to develop a strategic and communication plan for these stakeholders. This establishes the relevant consultation structure to ensure that process agreements can be made with all the parties involved in order to implement a sustainable urban logistics policy. Stakeholders also often experience problems that can be addressed within the context of a ZE zone.

The consultation process allows discussion of the current situation with the stakeholders, exploration of future scenarios, and identification of what is needed to introduce a ZE zone, and what the stakeholders can do themselves. For example:

- Why ZE?
- Urban accessibility and quality of the living environment.
- Municipality's ideas for the ZE zone and related actions.
- Joint procurement by large purchasers.
- Required loading capacity.
- Space for city hubs.
- Undesirable effects (shift to smaller vehicles).

Text box 1 - What is urban logistics?

Urban logistics includes all commercial transport from, to and within a city. The GD ZES comprises six urban logistics segments (GDZES, 2018). Table 1 provides an overview of the different urban logistics segments and most common vehicle types. This table is based on (Topsector Logistiek, 2017).

Table 1 - Urban logistics segments and the most common vehicles

Segment	Subsegment	Most common vehicle types
Fresh produce (conditioned)	Retail (fresh)	Tractor trailer unit Truck
	Specialists	Truck Large delivery van
	Home deliveries of fresh food (groceries and meals)	Delivery van Moped/bicycle
Individually packed goods	Retail chains (not fresh)	Tractor trailer unit Truck
	Specialists (including fashion and hanging transport)	Truck Large delivery van Moped/bicycle
	Two-man home deliveries (furniture, white goods)	Truck
Waste	Household waste collection	Heavy goods vehicle
	Business waste collection	Heavy goods vehicle
Express deliveries and parcels	Express deliveries and parcels	(Large) delivery van
Facility/service logistics	Maintenance and service	Delivery van Moped/bicycle

	Deliveries of stocks and supplies to offices, public departments and hospitals	Diverse vehicles
Construction	Infrastructure	Heavy goods vehicle
	Construction site preparation	Heavy goods vehicle
	Building shell construction	Truck Delivery van
	New building fit-out	Delivery van

Finally, a municipality can encourage and facilitate **pilot schemes** for ZE deliveries of stocks and supplies in the city. Pilot schemes of this nature highlight the aspects involved in zero-emission urban logistics and result in collaborations with parties making deliveries and retailers.

Completion of the first two steps results in the knowledge, collaboration and political mandate required for entering the next phase in setting up a ZE zone.

2.5 Step 2: Develop an action plan in collaboration with stakeholders

This step involves developing the action plan for implementation of the ZE zone in collaboration with the stakeholders identified in Step 1b. The action plan focuses on the following:

- the goals of the action plan (1a);
- the current situation (1b);
- the measures (ZE zone and flanking measures);
- the steps, including timing.

When stating **goals and topics**, both the municipality's interests and the interests of other parties must be mentioned. Parties performing transport operations benefit from an effective policy and efficient distribution. Cities are permitted to introduce or tighten up the requirements relating to an environmental zone from 2022, with Euro VI as the minimum. Cities can use this as a bargaining chip in exchange for a ZE zone. A balanced package of measures should be put together, taking into account the different interests that are involved.

Furthermore, **flanking policy and the additional sustainability measures** are also defined in this step. Part of the flanking policy will be deployed in the run-up to the ZE zone (between 2019 and 2025), while the other part will serve as an additional reinforcing measure when the ZE zone comes into force (from 2025). Examples of flanking or supplementary policies include differentiated parking charges, adapted loading and unloading times, driving on bus lanes and the municipality's own procurement policy. These broader measures ensure that the ZE zone is not the only measure deployed. The ZE zone is more likely to be successful if it is not the only measure used to tackle emissions caused by urban logistics. When choosing measures, the interests of the different parties are weighed up against each other and the overall objective. Where possible, the (cost) effectiveness and implementation time of the measures should also be taken into account, and measures should be assessed for proportionality, future-readiness and feasibility.

It is essential that goals and topics are identified in collaboration with stakeholders, e.g. via the strategic and communication plan referred to in Step 1b. Collaboration with stakeholders is also a requirement of the Environment Act (Omgevingswet), which comes into effect from 1 January 2022. The Environment Act identifies specific requirements relating to early participation when developing plans that have an impact on the physical living environment. Furthermore, a ZE zone is most likely to succeed if the interests of all the parties are properly identified and carefully weighed up against each other.

Formulating an action plan that is supported by all the **stakeholders** contributes to effective implementation. An action plan for goods transport is an excellent basis for collaboration between municipalities and businesses. It is important that the responsibilities of the various parties in the ZE zone are clearly described in this step. The role of the municipality is primarily to regulate, incentivise, facilitate and manage. At the same time, consideration must be given to the regional context as urban goods transport does not generally take place exclusively in a single municipality. So coordination between (neighbouring) municipalities is desirable in this respect.

The ZE needs to be supported by market parties. After all, the market parties must be physically able to deliver goods in a financially viable manner. An important related topic is the role of the municipality in facilitating distribution hubs, electric charging infrastructure specifically for urban logistics vehicles and encouraging bicycle logistics.

Signature of the GDZES¹ is the first step in developing the action plan. In doing so, the municipality clearly indicates its future strategy for urban logistics. Further agreements can be made within the municipality regarding the period leading up to the introduction of the zone in 2025, e.g. offering privileges to innovators.

Having made these arrangements, a municipality can focus on defining the ZE zone. For example, the physical zoning, planning and vehicle requirements. In respect of the latter, an effort should be made to harmonise to the greatest possible extent at national level. Section 3 looks in detail at uniform agreements.

2.6 Step 3: Municipal authority decision

The municipal authority's decision officially announces the introduction of the ZE zone from 2025, in line with the action plan. It presents arguments supporting the usefulness and necessity of the ZE zone. The decision also identifies other measures for cleaner city-centre deliveries of stocks and supplies in the action plan. Examples of additional measures include adapting time windows, stimulation measures for vehicles and infrastructure, offering privileges to innovators in the run-up to 2025, and the use of smarter logistics concepts (see also Annex B). The decision must indicate the expected effectiveness of the measures in terms of air quality, climate, quality of the living environment, economic effects and spatial infrastructure.

It is important to bear in mind that the court will carry out a marginal assessment of the municipal authority's decision. This means that the court primarily considers whether all the interests of the various parties have been duly taken into account in the final decision. In this light, it is important to ensure that the interests identified in the previous steps are properly taken into account in the municipal authority's decision.

¹ For more information, see <https://www.greendealzes.nl/>

The municipal authority's decision must be clear in terms of the actions to be taken by market parties and must unequivocally state that a ZE zone will come into effect from 2025.

In order to minimise the grounds for complaints procedures, the decision must refer to the various consultations held with stakeholders in early stages of the project and identify the level of social support that exists.

Communication and information about the municipal authority's decision (target group and method) is part of the information campaign that municipalities organise from the date of the decision up to the date when the zone comes into effect.

2.7 Step 4: Traffic byelaw

A traffic byelaw is required to concretise details in relation to aspects requiring explanation and to introduce the environmental zone. The traffic byelaw implements the zonal restriction, based on the traffic sign introduced for this purpose by national government². At the same time, it provides details of the policy on enforcement and exemptions.

Enforcement

A ZE zone can be enforced in various ways, e.g. with cameras, license plate scanners or via municipal enforcement officers (BOA/Buitengewoon Opsporings Ambtenaar). Licence plates can be used to check whether the vehicles meet the ZE requirement (e.g. via a central database), or whether owners have applied for an exemption (e.g. via the municipal database containing exemption applications).

Exemptions

Exemptions are a further important element of a traffic byelaw. A policy rule on exemptions is the basis for granting permanent and temporary exemptions. The policy rule should ideally be coordinated with other municipalities to achieve the greatest possible degree of uniformity, as in the case of existing environmental zones. Exemptions should preferably be issued by a central department to reduce the administrative burden.

The details of the exemption policy still need to be fleshed out within the framework of the Climate Agreement.

2.8 Step 5: ZE zone comes into effect

The ZE zone (and possible flanking policies) comes into effect from 1 January 2025.

The municipality should start to communicate clearly about the ZE zone and the flanking policies at an early stage, e.g. via mailshots, the municipality's website and the press. Citizens, industry associations and lobby groups, and local stakeholders such as entrepreneurs, shopkeepers and businesses must be informed of developments in the decision-making process in good time, e.g. clear information on issues such as the final size of the ZE zone, the definition of zero emissions, the introduction date and the application procedure for exemptions.

² See letter to Parliament IENW/BSK-2018/135480.

It is strongly recommended that the municipality monitors and evaluates the effectiveness of the ZE zone. Data on enforcement and feedback from enforcers is required for this. Annual evaluation is recommended.

2.9 Indicative timeline

An indicative timeline is outlined in Table 2. This should be understood as a general guideline for municipalities and can be adapted as necessary to meet each individual municipality's local needs.

Table 2 - Indicative timeline for implementation of the steps

	2019-I	2019-II	2020-I	2020-II	2025
Step 1a: Substantiation, arguments and vision							
Council and political mandate, budgets							
Vision development							
Step 1b: Insight into the subject matter							
Insight into the structure, efficiency and impact of goods flows							
Contact with stakeholders							
Step 2: Development of an action plan							
Action plan development							
Signature of GDZES							
Flanking policies							
Step 4: Decisions							
Municipal authority decision							
Traffic byelaw							
Policy regulation on exemptions + enforcement							
Step 5: ZE zone comes into effect							

3 Definitions and uniform arrangements

3.1 Introduction

The introduction of zero-emission zones needs to be coordinated in a number of areas to simplify their establishment and management, and to keep the new rules as simple and clear as possible for the market parties. This chapter clarifies a number of definitions.

3.2 Definition of zero emissions

Zero-emission vehicles do not release (tank-to-wheel) emissions from the exhaust in a zero-emission zone; i.e. the vehicles do not generate CO₂ emissions and other air pollutants inside a zero-emission zone. In practical terms, the following vehicles meet this definition:

- Fuel cell-powered vehicles (FCEV, fuel cell electric vehicle)
- Electric cars (BEV, Battery Electric Vehicles);
- Plug-in hybrids (PHEV, Plug-in Hybrid Electric Vehicles).

A transitional arrangement in the form of a centrally issued waiver linked to the licence plate, valid until 1/1/2030, will apply to existing trucks registered before 1/1/2025. Only EURO VI trucks of a specific maximum age - 5 years in the case of rigid-body trucks and 8 years in the case of tractor units - are eligible.

There is no transitional arrangement for delivery vans and the zero-emission obligation applies from 1/1/2025.

Alternative liquid or gaseous fuels are not included in the scope of the zero-emission definition. The same applies to vehicles powered by a compression engine.

This definition is based on the Climate Agreement.

3.3 Vehicle type definition

All delivery vans and trucks registered with the National Vehicle and Driving Licence Registration Authority (RDW) in categories N1, N2 and N3, as stipulated in Framework Directive 2007/46/EC, fall within the scope of the agreement.

3.4 Definition of the zone

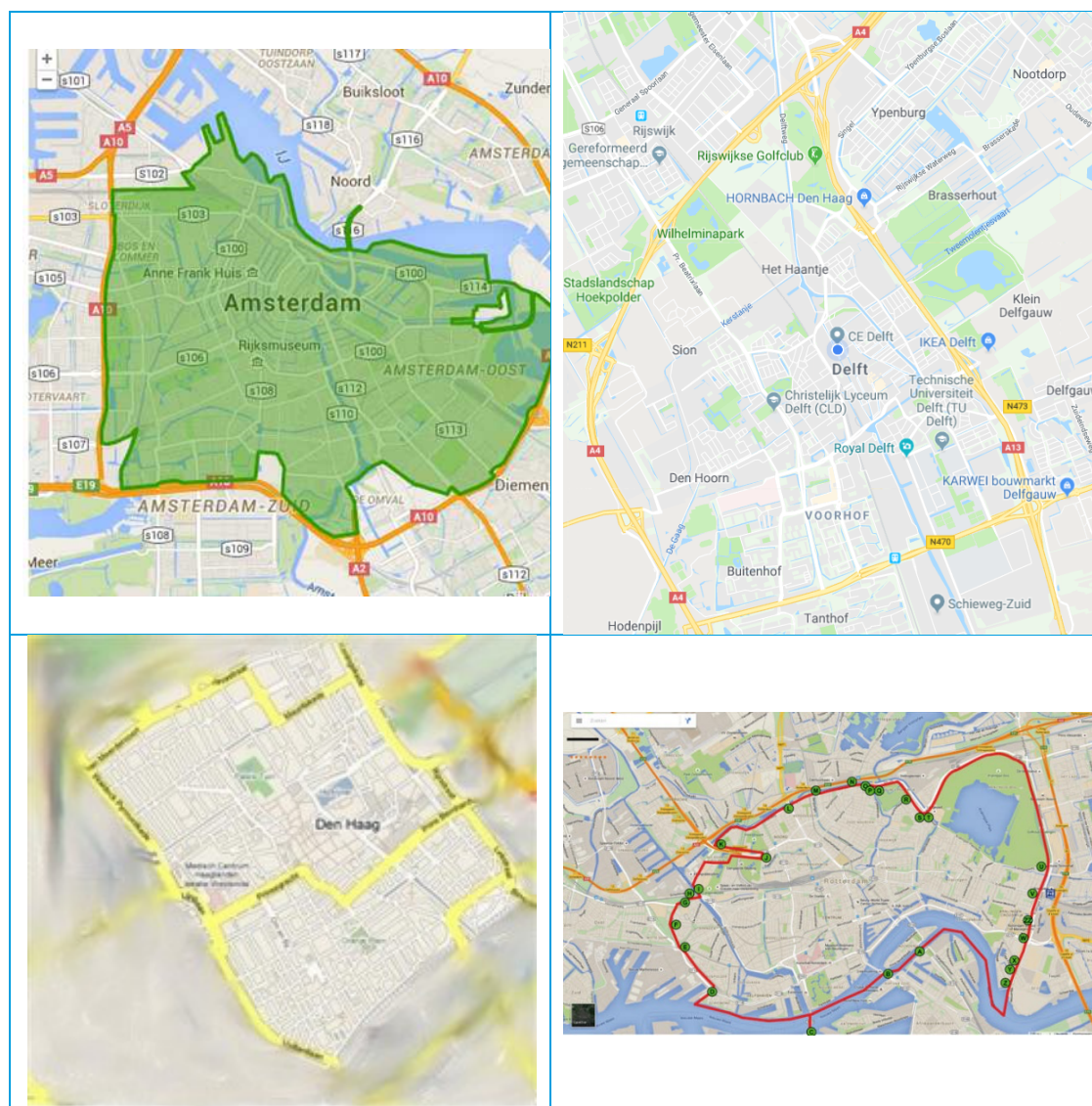
The Climate Agreement uses the term ‘medium-sized environmental zones’. The basic principle when defining an environmental zone is that the city centre of an urban agglomeration, the residential areas surrounding the city centre and most of the city's facilities and amenities must lie within its boundaries.

Zero-emission zones are intended to achieve a 1 megaton reduction in the total emissions produced by urban logistics in the Netherlands, which are quantified at 3.6 megatons. On average, this means a reduction of almost 30% in the total national emissions, a target that is to be achieved via the 30 to 40 municipal zones. This implies that the emissions reduction in a city with a ZE zone must be higher, by roughly 50%.

The zero emission zone does not include the main urban road network, which is also used by traffic travelling to destinations outside the city centre.

A number of examples are provided below to clarify the definition of a zone.

Figure 1 - Illustrative examples of a zero-emission zone



At present, the current environmental zone for trucks in Amsterdam covers the area inside the A10 ring road and to the south of the river IJ. In the case of Delft, the ZE zone could cover the area between the N470, A13 and Prinses Beatrixlaan, excluding the Schiezone business park. In The Hague, the area inside the S100 (signposted as 'centrumring Den Haag') could be a starting point while the current environmental zone in Rotterdam is a possible candidate.

The size of many existing environmental zones (Delft, Utrecht, Breda, Maastricht) for truck traffic is too small to achieve the required effects.

Business parks are being excluded from the zero-emission zones for the time being.

A Commitments in the draft Climate Agreement

A.1 Greater sustainability in the logistics sector

The logistics sector is an important economic and social cornerstone in the Netherlands. At the same time, logistics operations are a major source of CO₂ emissions and other emissions. In addition to the focus on renewable energy sources, other initiatives are also being deployed to accelerate the transition to zero emissions. For example, medium-sized zero-emission zones in 30 to 40 large municipalities, zero-emissions construction vehicles and mobile equipment, a focus on climate neutrality and circularity in groundworks, road engineering & hydraulic engineering, improvements in logistics efficiency and a Green Deal programme for inland shipping (Green Deal Binnenvaart).

Medium-sized zero-emission urban logistics zones in 30 to 40 large municipalities in 2025. Under the Green Deal Zero Emission Urban Logistics (ZES) programme, medium-sized zero-emission zones (ZE zones) will be established in 30 to 40 large cities by the end of 2020 at the latest, and these zones will apply to goods transport from the beginning of 2025. Other municipalities can also participate. This is expected to lead to a reduction of 1 megaton of CO₂. As businesses need to be able to prepare in good time for the ZE zones that will come into force from the beginning of 2025, the plans for their introduction will be finalised by the end of 2020 at the latest, in a structured process, managed jointly by central government and the municipalities. Other municipalities that wish to establish a zero-emission zone at a later date must announce this at least four years beforehand to allow structured preparation by government and industry.

Agreements

The agreements between the parties are as follows:

- a TLN, Evofenedex, Topsector Logistiek and other sector parties will collaborate with central government, VNG, IPO, large municipalities and Natuur & Milieu to draw up an implementation agenda for the different subsectors in urban logistics (e.g. construction, retail, fresh produce, waste flows, catering, facility businesses and e-commerce) with the aim of making transport operations emission-free by 2025 at the latest. This implementation agenda shall, at the very least, include agreements on financing solutions, communication, facilitation and support for entrepreneurs, monitoring and governance.
- b Companies in the logistics chains will take the lead in implementing proven sustainable solutions. To support these initiatives, they will invest in IT (e.g. control towers, the integration of logistics planning with Building Information Models), fund the development of clean technology for vehicles and purchase it when operationally viable.
- c Topsector Logistiek will develop knowledge, new concepts and implement pilot schemes to generate and prove sustainable logistics solutions, including the associated monitoring. Furthermore, Topsector Logistiek will develop quantitative models for the logistics subsectors that clearly identify the benefits of the financial investment in terms of competitiveness and CO₂ reduction in order to speed up investment decisions.

- d As of 2025, all new trucks for use in a ZE zone must be zero-emissions vehicles. ZE zones will result in strong demand for ZE delivery vans and trucks. (The projection is a total of 50,000 ZE vans and 5,000 ZE/PHEV trucks in 2025, growing steadily to 115,000 zero-emissions vans and 10,000+ ZE/PHEV trucks in 2030). Widespread adoption of these vehicles will be supported by the development of new services based on the use of multipurpose vehicles, Light Electric Vehicles (LEVs) and electric cargo bikes. More ZE trucks than the projected figures shown above will be required for the medium-sized ZE zones. Therefore, a transitional arrangement in the form of a centrally issued waiver linked to the licence plate, valid until 1/1/2030, will apply to existing trucks registered before 1/1/2025. Only EURO VI trucks of a specific maximum age - 5 years in the case of rigid-body trucks and 8 years in the case of tractor units - are eligible. In a joint process involving the municipalities, consideration is being given to the possibility of offering favourable incentives for ZE trucks during this period (e.g. access to attractive parking/service areas) in order to stimulate widespread adoption of zero-emission vehicles.
- e Central government has launched an incentive scheme, which has been agreed with the sector, in order to stimulate adoption. This incentive scheme amounts to €94 million for trucks and €185 million for vans in the period up to 2025. The basic component of this incentive scheme is a purchase subsidy covering up to 40% of the additional cost of a ZE vehicle compared to the fossil fuel alternative. Due to the limited availability of suitable vehicles, this incentive scheme can also be used for PHEV truck variants during this period.
- f The VNG (Association of Dutch Municipalities) is taking the lead, in collaboration with municipalities, in implementing the required organisational and IT-related measures for the introduction of zero-emission zones in 2025. Municipalities are stimulating market demand by integrating and rewarding sustainable logistics in their permit issue, procurement and (local government and third-party) tender processes. In addition, they are working on infrastructure changes (e.g. upgrades to bicycle infrastructure and the public charging infrastructure for electric vehicles) that are required to make new concepts possible.
- g Incentives are available for new concepts for urban logistics. For example, the DKTI transport innovation scheme can be used to stimulate widespread adoption of electric cargo bikes and LEVs in coming years. Central government is collaborating with the sector to introduce a procedure that actively encourages the market to use pioneering technology in this area.
- h Within the framework set by the European Directive on the promotion of clean and energy-efficient road transport vehicles, central government and the municipalities explicitly demand the use of ZE commercial vehicles in public tenders.
- i If the implementation agendas have not yet led to the establishment of medium-sized zero-emission zones in 30 to 40 cities by 2025, central government will pass legislation in 2026 at the latest, which makes zero-emission zones mandatory in 2030. The number of municipalities that subsequently opt to participate will be continuously monitored. Central government is already preparing legislation to facilitate rapid introduction of a statutory obligation in this respect.

B Legal requirements for introducing a ZE zone

The annexes to this roadmap include a legal guideline that addresses the judicial requirements for successfully introducing a traffic byelaw. Municipalities are recommended to follow the preparatory procedure outlined below in order to ensure a careful and well-reasoned basis for implementing a traffic byelaw that establishes a ZE zone:

- Organise a traffic study. This study should include, among other things, an analysis of the effectiveness of the ZE zone, a substantiated estimate of the effects and a feasibility assessment.
- Create support for the ZE zone by involving parties such as the business community, citizens and relevant organisations in the procedure leading up to the traffic byelaw. A local covenant can also be agreed with these parties.
- Make the ZE zone part of a larger package of measures.
- Announce the ZE zone in good time via policy documents and other instruments.
- Consider whether the ZE zone will be introduced in phases and what exemption policy will be applied.
- Identify the interests involved in this decision and how they can be included in the balance of interests procedure.

C Examples of flanking measures for the ZE zone

The ZE zone can be introduced as a stand-alone instrument, but is more likely to succeed if it is introduced as part of a larger package of measures that is embedded in the municipal authority's overall vision. This section lists examples of complementary measures in the field of urban logistics.

Examples of measures that can be introduced in the run-up to implementation of the ZE zone:

- Dispense with a Euro VI environmental zone for trucks in 2022 in favour of a ZE zone one year later
- Distinguish between clean transport and vehicles that generate more pollution in the time window regulations for accessing the city centre. For example: prohibition on deliveries of stocks and supplies in the city centre between midday and 7pm, with the exception of ZE vehicles.
- Allow ZE vehicles to use the bus lanes into the city centre.
- Investigate the conditions for operating a ZE hub.
- Set up a goods delivery point for businesses as a living lab initiative.
- Organise a trial to investigate the possibilities of waste collection during the evening hours.
- Increasingly specify use of ZE vehicles in the municipality's procurement conditions.
- Make parking for ZE vehicles more attractive (on a temporary basis).
- Allow service companies (e.g. installers) to park ZE vehicles for longer than the locally applicable maximum time.

Examples of measures that can be implemented when the ZE zone has come into force:

- Bus lanes into the city centre accessible for ZE vehicles only from 2025.
- Introduce a ZE hub (if an earlier living lab initiative indicates that this measure will be successful).
- Introduce a goods delivery point for businesses (if an earlier living lab initiative indicates that this measure will be successful).
- Implement spatial planning measures to allow the use of electric bikes and cargo bikes for deliveries of stocks and supplies.