

Insights report:

# ZERO EMISSION DELIVERY OF GOODS



Welcome to the Information webinar:

# ZERO EMISSION DELIVERY OF GOODS

**Time:** April 29<sup>th</sup> 2020, 13.00-15.00

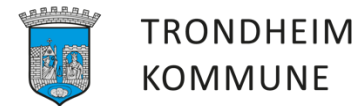
**Place:** Digitally on Teams

**Register:** <https://events.provisoevent.no/nho/events/zero-emission-delivery-260320/register>

**Agenda:** Information about the project and presentation of the Insights report  
Request for Information  
Questions and answers

We kindly advice you to turn off the microphone and camera so that the stream can work as smoothly as possible. Use the chat to ask questions. The information webinar session will also be published on the project page: <https://innovativeanskaffelser.no/zeroemissiondelivery/>

Hosted by Nordic municipalities and supporting functions



/ STATENS INNKJØPSSENTER

What is the history behind  
this initiative?



# The Nordic green transition

In 2018, the Nordic Council of Ministers published a report urging for more Nordic co-operation on environment and climate. The aim is to limit global rise in temperature to a maximum of 1.5°, in accordance with the Paris Agreement.

The report propose 12 recommendations for Nordic co-operation, whereof one covers public procurements. As a response to this, larger Nordic cities and municipalities have come together to identify common Nordic ambitions and engage suppliers and other stakeholders to take part in the green transition.



«The Nordic Region constitutes the world's 11th largest economy with considerable green purchasing power, and therefore substantial resources for change.»

Tine Sundtoft, Nordic Council of Ministers

Why zero emission delivery  
of goods?

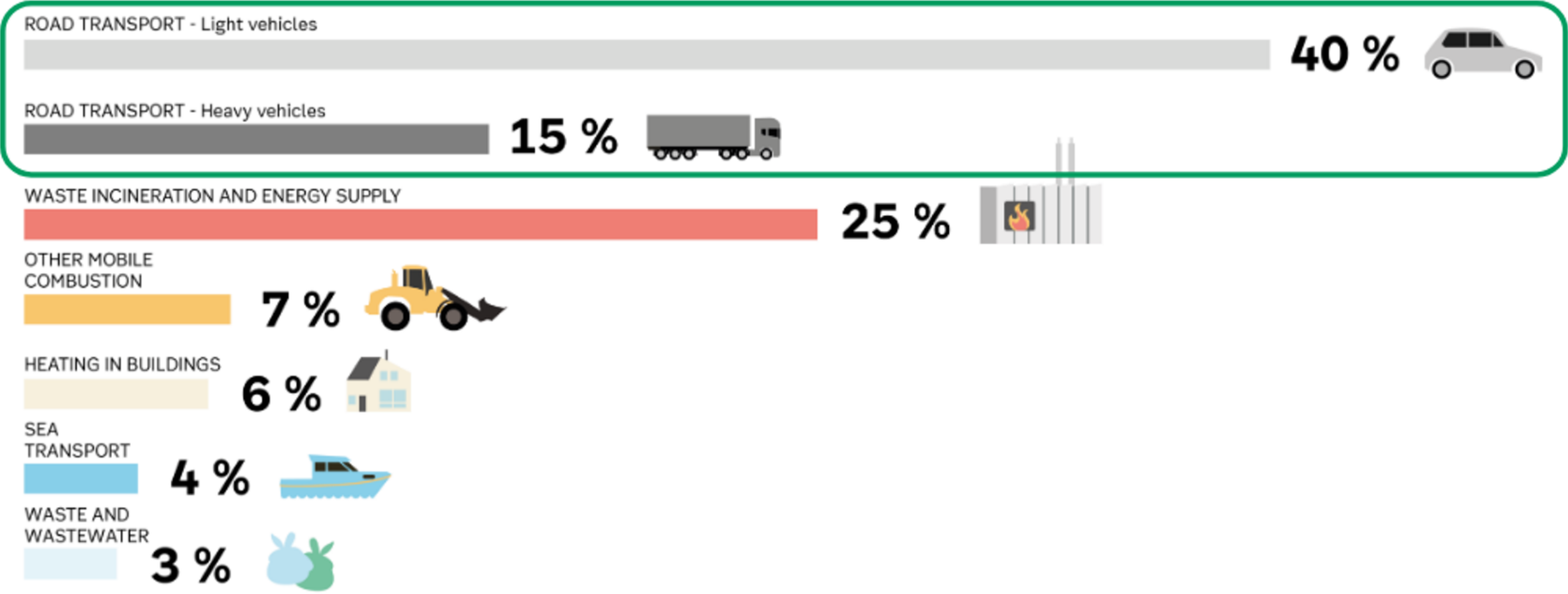


«For many European cities today, addressing traffic congestion and reducing transport related emissions of CO2, noise, and harmful local pollutants, is a key priority.»

BuyZET Handbook, May 2019



# Road transport is a significant source of CO2 emissions



Source: CO2 emissions in Oslo 2017, Oslo Kommune

# Road transport is used within several public procurement areas

①



## **Vehicles**

Vehicles owned or leased by public to carry out their public services, such as road and green space maintenance, office car pools etc<sup>4</sup>.

②



## **Transportation services**

Services contracted to private operators for the transportation of people and goods, such as bus services, disabled transport, parcel delivery, waste collection etc.

③



## **Other services with a transportation footprint**

A wide variety of further services such as cleaning, catering, plumbing, or locksmith services, all of which require the movement of people and goods in their delivery.

④



## **Goods**

The purchase of products, which then need to be delivered to public premises.

⑤



## **Construction**

Public infrastructure and building works, typically requiring significant transportation of construction materials, equipment, waste and workers.

⑥



## **Non-transport relevant procurement**

A small number of contracts which involve no, or a negligible amount, of transport in their delivery, such as desk-based consultancy services.

# Our focus is to reduce emissions from delivery of goods

①



### Vehicles

Vehicles owned or leased by public to carry out their public services, such as road and green space maintenance, office car pools etc<sup>4</sup>.

②



### Transportation services

Services contracted to private operators for the transportation of people and goods, such as bus services, disabled transport, parcel delivery, waste collection etc.

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A wide variety of further services such as cleaning, catering, plumbing, or locksmith services, all of which require the movement of people and goods in their delivery.

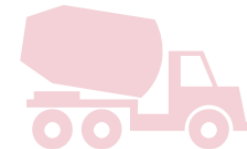
④



### Goods

The purchase of products, which then need to be delivered to public premises.

⑤



### Construction

Public infrastructure and building works, typically requiring significant transportation of construction materials, equipment, waste and workers.

⑥



### Non-transport relevant procurement

A small number of contracts which involve no, or a negligible amount, of transport in their delivery, such as desk-based consultancy services.

Source: [Purchasing zero emission delivery of goods and services](#)

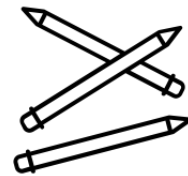
Five categories of goods are frequently ordered by and delivered to municipal premises



Food and catering



Medical supplies



Office supplies

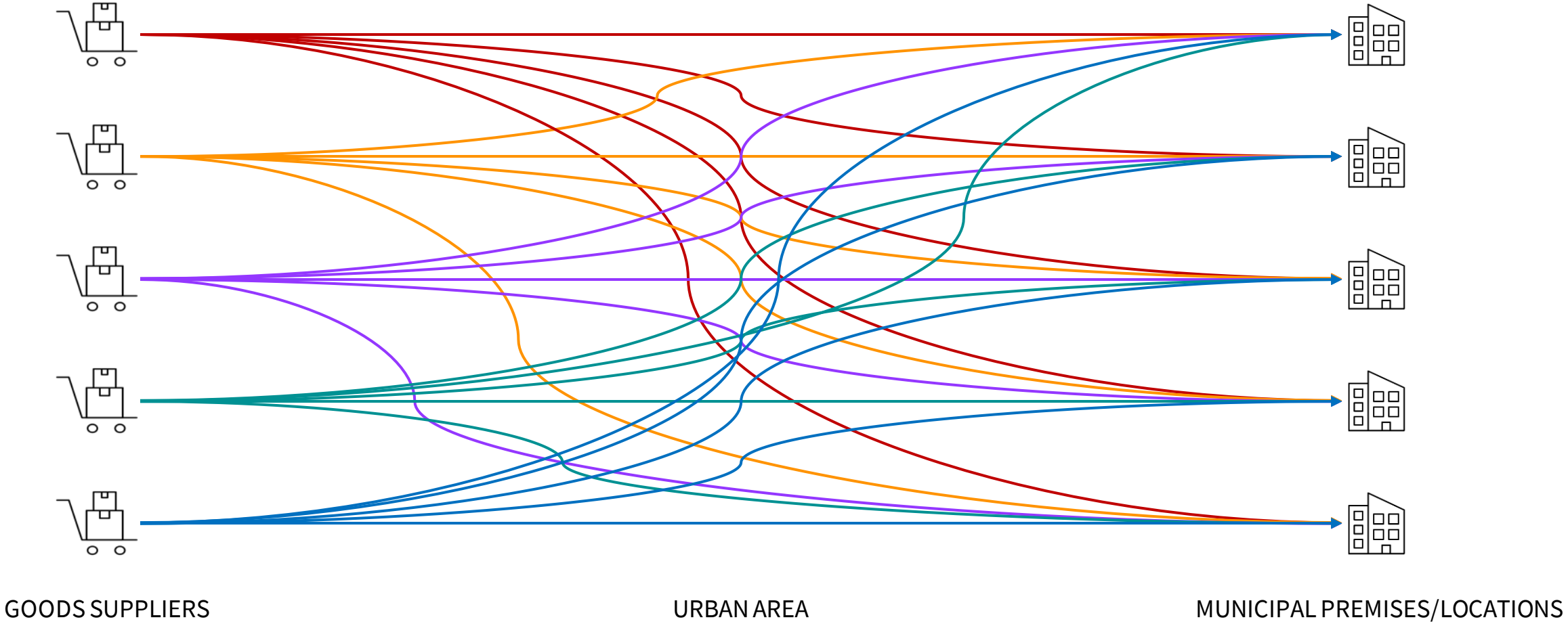


IT hardware and assets

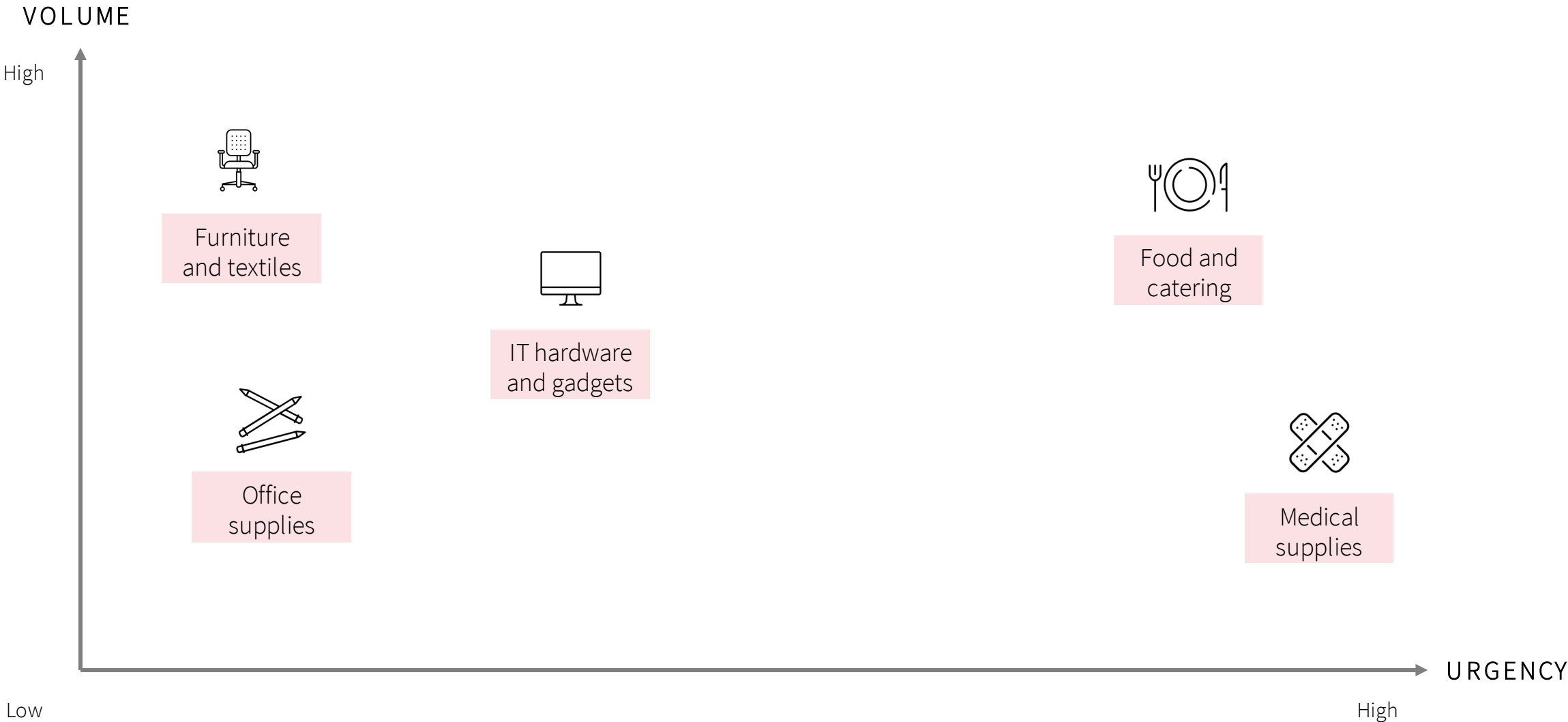


Furniture and textiles

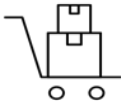
Goods are typically delivered by many suppliers, to many locations, many times a day; putting pressure on urban areas



Size and urgency of deliveries varies across goods categories; making consolidation more complex



# Numerous actors in the supply chain makes cooperation critical



GOODS SUPPLIER  
e.g. Tine or Staples



DISTRIBUTOR  
e.g. Bring or DHL

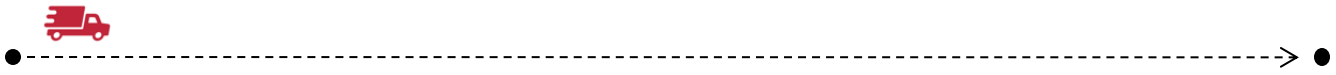


PUBLIC BUYER  
e.g. ordering office



PUBLIC USER  
e.g. school or hospital

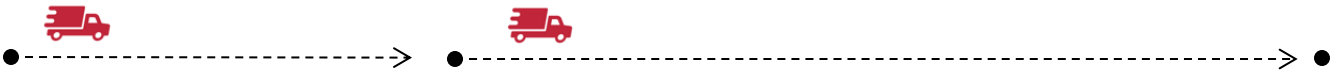
Goods supplied directly to user



Goods supplied to user via buyer



Goods supplied to user via distributor



Goods supplied to user via distributor and buyer



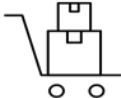
# Procurement patterns in municipalities affects goods delivery patterns and emissions



PUBLIC USER  
e.g. school worker



PUBLIC BUYER  
e.g. ordering office

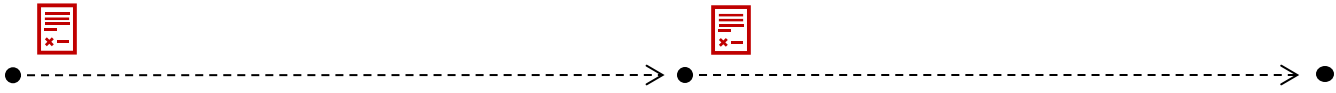


SUPPLIER  
e.g. Staples

Goods ordered directly by user



Goods ordered by user via public buyer





# The transition to zero-emission vehicles in municipalities relies on several actors



TECHNOLOGY SUPPLIER  
e.g. battery producer



VEHICLE PRODUCER  
e.g. Volvo



GOODS SUPPLIER  
e.g. Tine or Staples

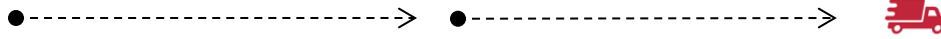


DISTRIBUTOR  
e.g. Bring

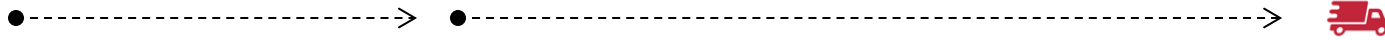


PUBLIC BUYER  
e.g. Municipality

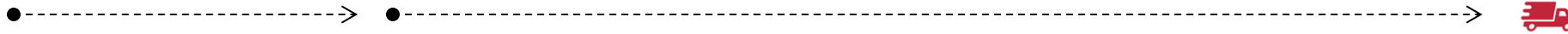
Supplier owned vehicles



Distributor owned vehicles



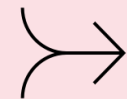
Municipality owned vehicles



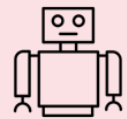
## Why we have chosen to focus on delivery of goods



Delivery of goods continues to grow in the cities. This is to some extent driven by e-commerce and because urbanization causes cities to grow – and thus, the volume of goods increases. A major challenge is to limit the effect of the increase on the urban traffic system.



Public sector goods are typically ordered individually by different municipal departments or units/locations, with contracted suppliers delivering directly to the site. Improvement of procurement and delivery patterns can help reduce emissions from delivery of goods.



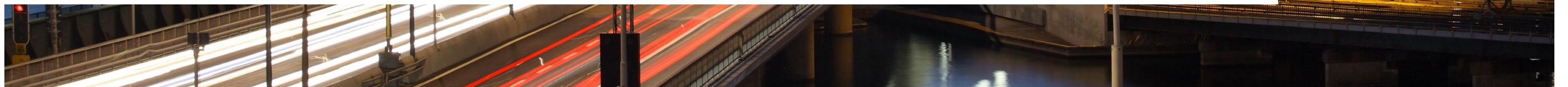
The availability of technology not only for zero emission vehicles, but also for crowd sourcing, data sharing, machine learning, and AI, suggest this is an area ripe for new and more innovative solutions.



Cities in the Nordic share the same challenges and have similar ambitions, and in many cases also use the same suppliers and distributors; making this an area where Nordic collaboration can prove beneficial to all parties.



**Stockholm** aims to become fossil-free within 2040 and has developed a Freight Plan that urges for innovation. This results in initiatives such as Älskade Stad and the Zeus project. In the Zeus project, Stockholm, Scania and McDonalds tests night time-delivery (off-peak). In the night-time-delivery, the truck transfer to electric when it enters an urban area automatically by using geofencing.



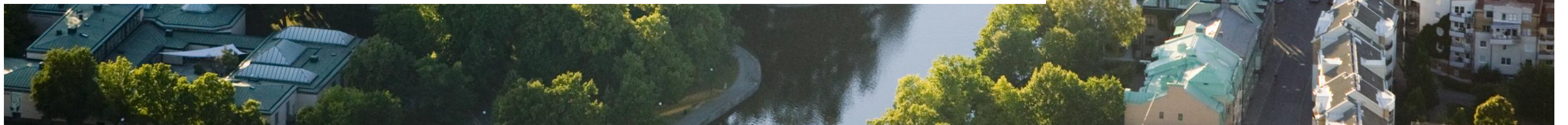


**Gothenburg** aims for a zero emission fleet of vehicles owned/used by the municipality in 2023.





**Örebro** aims to be climate neutral by 2030, and uses green procurement as a key instrument to reach this goal. E.g. transportation of goods to different municipal departments and locations are consolidated to reduce emissions.





**Turku** aims to reduce emissions 50 % during 2021, 70 % within 2025 and will be carbon neutral by 2029. Emissions by car traffic will be reduced by investing both in emission-free or low-emission vehicles and new innovative logistic models.





**Kaarina** is currently working on its climate strategy, and as part of it aims to move towards smarter deliveries of goods to and within the city in order to reduce CO2 emissions.

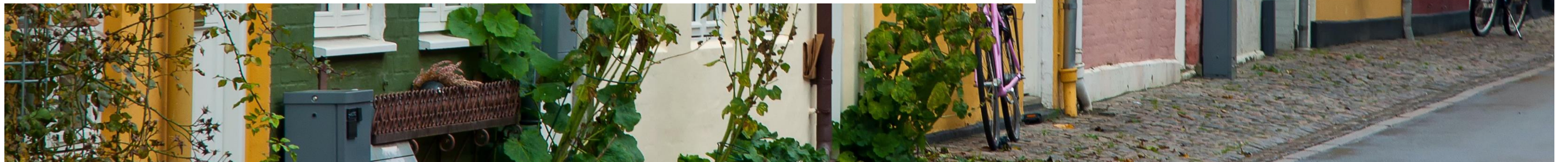


**Copenhagen** has linked their strategy to the UN sustainability goals, and will impose stricter requirements to reduce CO2 emission from vehicles in coming tenders.





**Aalborg** focuses on green procurement and will require zero emission delivery of goods in coming tenders, in addition to asking for circular models.





**Gladsaxe** has incorporated the UN sustainability goals in their strategy, and wish to consolidate delivery of goods to reduce CO2 emissions.



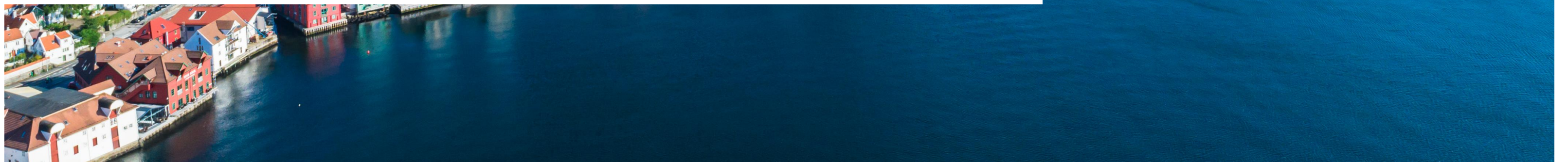


**Oslo** aims to reduce all GHG emissions by 2030 within the city boundaries, and from 2025 all deliveries to the municipality must be done by zero emission or biogas vehicles.





**Bergen** will establish a fossil-free city zone in 2020, and aims to reduce emissions by 50% within 2023 and make the whole municipality fossil-free by 2030.

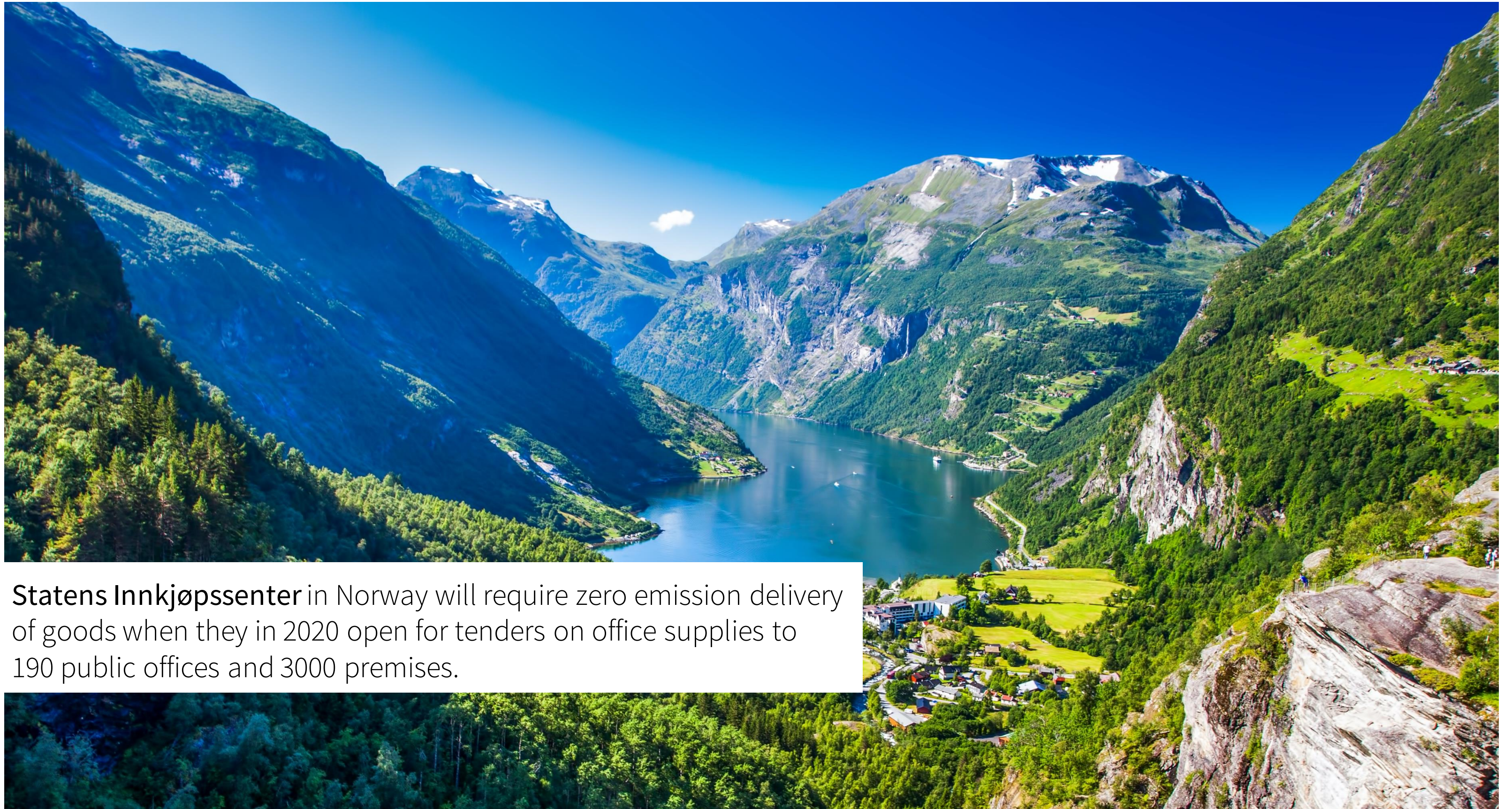




**Trondheim** aims to reduce direct greenhouse gas emissions by 30% within 2023 and 80% within 2030 compared to 1991. Greenhouse gas emissions from transport shall be reduced by 85% within 2030 compared to 1991.



**Kristiansand** and the Agder region aims to create the world's first fully electric society with 100% clean energy by 2030.



**Statens Innkjøpscenter** in Norway will require zero emission delivery of goods when they in 2020 open for tenders on office supplies to 190 public offices and 3000 premises.

What will we explore in the Nordic market engagement?





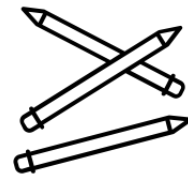
## How to achieve zero emission delivery of goods frequently purchased by municipalities



Food and catering



Medical supplies



Office supplies



IT hardware and assets



Furniture and textiles

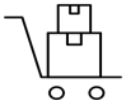
# How procurement patterns can be improved to reduce emissions



PUBLIC USER  
e.g. school worker

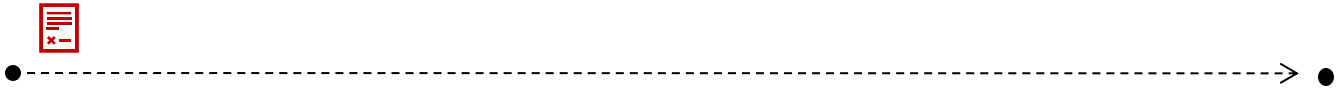


PUBLIC BUYER  
e.g. ordering office

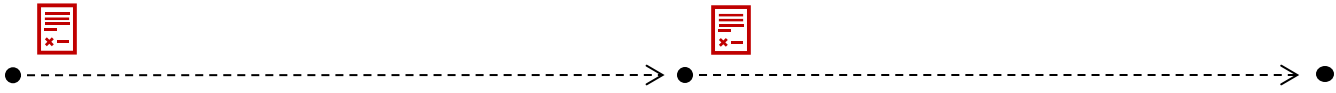


SUPPLIER  
e.g. Staples

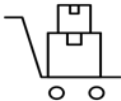
Goods ordered directly by user



Goods ordered by user via public buyer



# How delivery patterns can be improved to reduce emissions



GOODS SUPPLIER  
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DISTRIBUTOR  
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PUBLIC BUYER  
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PUBLIC USER  
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Goods supplied to user via buyer



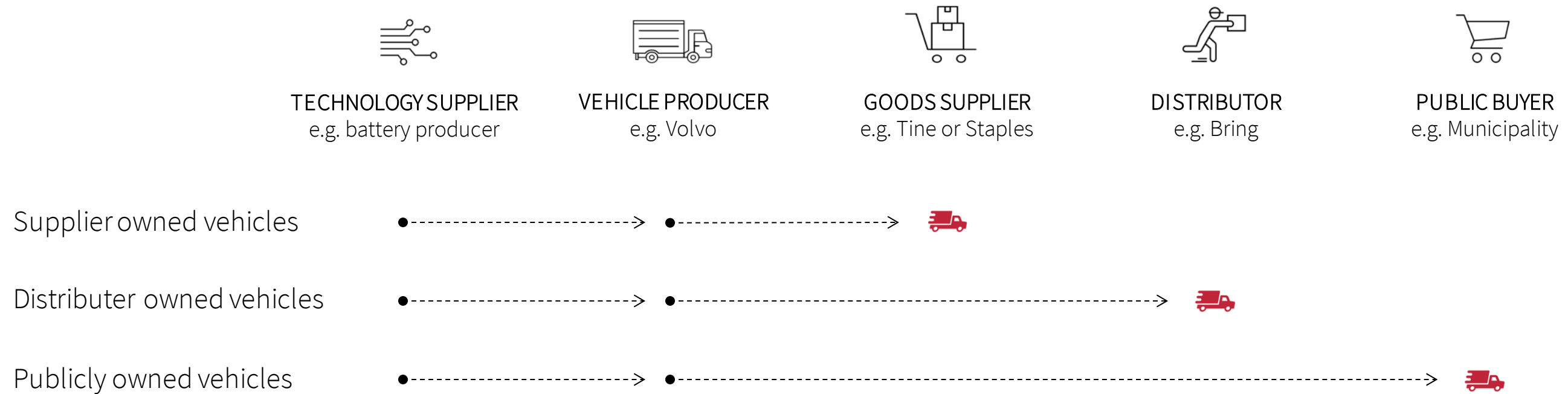
Goods supplied to user via distributor



Goods supplied to user via distributor and buyer



# How to facilitate the use of zero emission vehicles for goods deliveries in municipalities



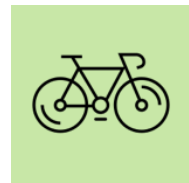
## Four key measures to limit emissions from delivery of goods



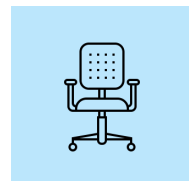
Reduce the number of motorised vehicle trips in the urban area, e.g. by establishing collecting terminals, sharing vehicles and rides, and by consolidating orders and deliveries.



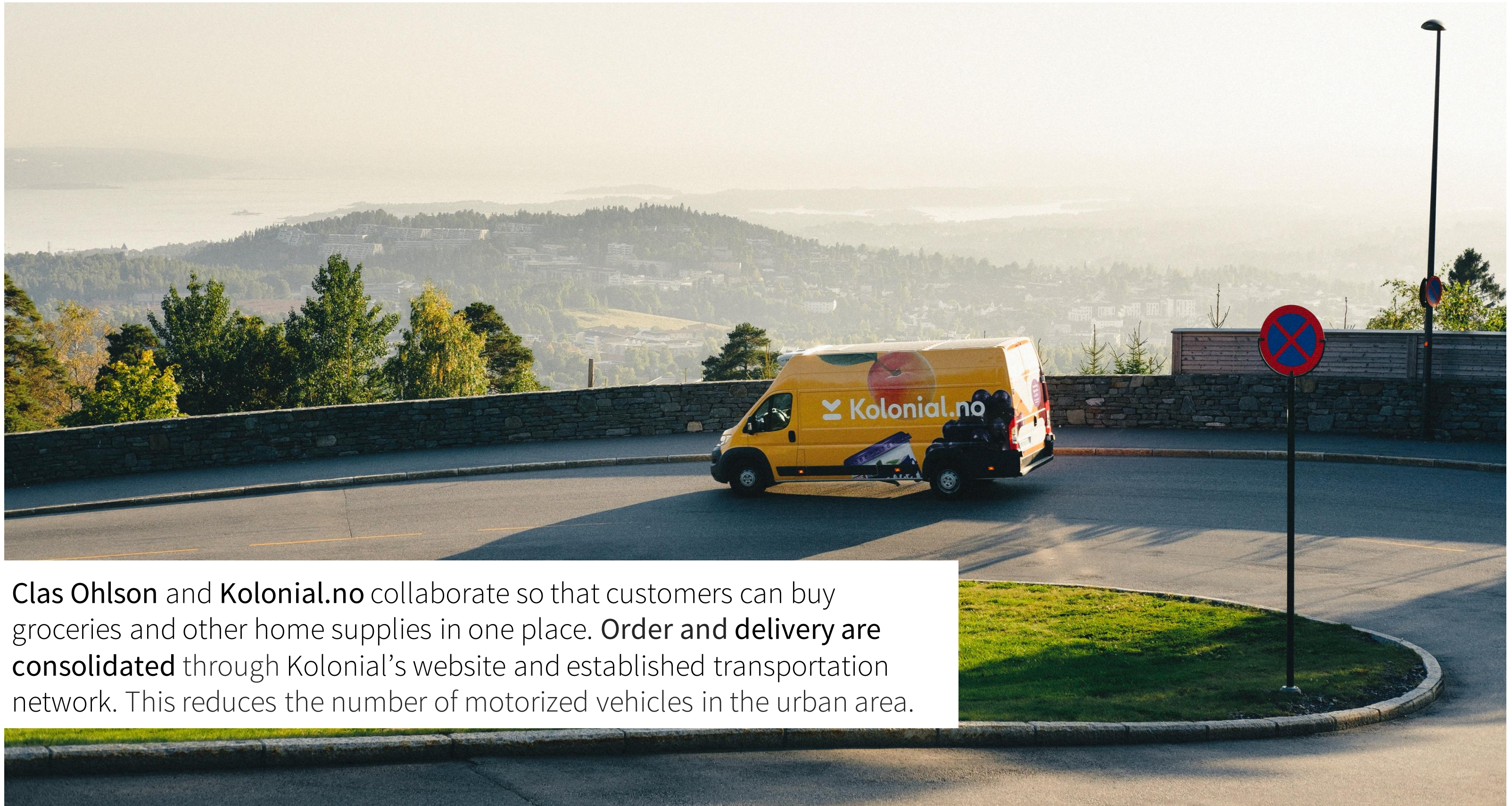
Foster the use of zero emission vehicles, such as electric or hydrogen vehicles, electrical bicycles, and drones.



Encourage a modal shift towards cleaner forms of transportation, such as walking, cycling, and public transportation.



Reduce waste and the number of new purchases by choosing products that last and facilitating for circular models.



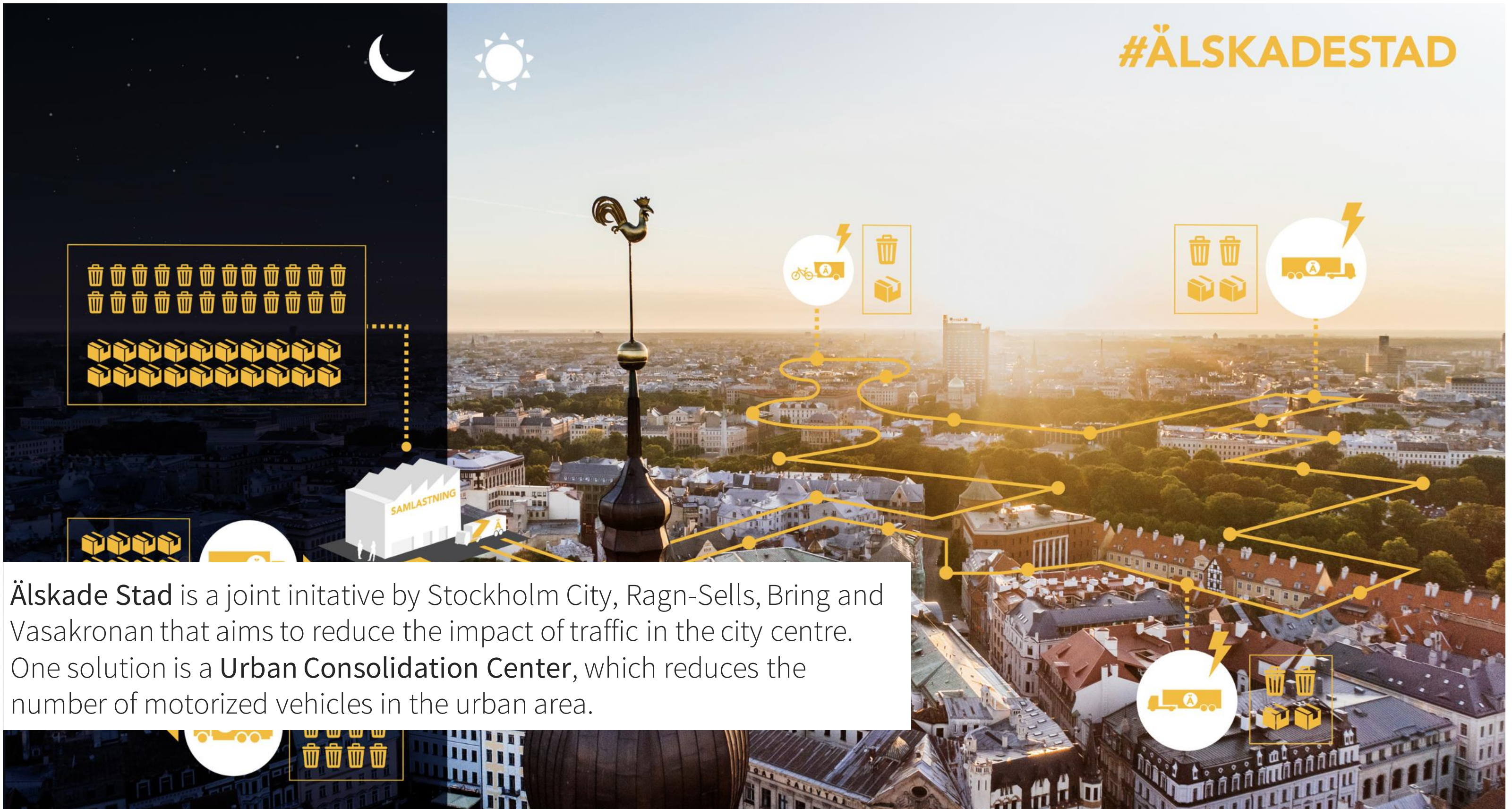
Clas Ohlson and **Kolonial.no** collaborate so that customers can buy groceries and other home supplies in one place. **Order and delivery are consolidated** through Kolonial's website and established transportation network. This reduces the number of motorized vehicles in the urban area.



**Amazon Prime Air** is a future delivery system designed to safely deliver packages to customers in 30 minutes or less using **drones**. This reduces the number of motorized vehicles in the urban area.



#ÄLSKADESTAD



Älskade Stad is a joint initiative by Stockholm City, Ragn-Sells, Bring and Vasakronan that aims to reduce the impact of traffic in the city centre. One solution is a **Urban Consolidation Center**, which reduces the number of motorized vehicles in the urban area.





REDUCES NUMBER OF MOTORIZED VEHICLES IN URBAN AREA



Schenker's Oslo City Hub is used to reload goods from trucks to electrical bikes. This secures 80% zero emission delivery of goods by Schenker in Oslo inner city, and reduces the number of motorized vehicles in the urban area.



REDUCES NUMBER OF MOTORIZED VEHICLES IN URBAN AREA



FOSTERS USE OF ZERO EMISSION VEHICLES



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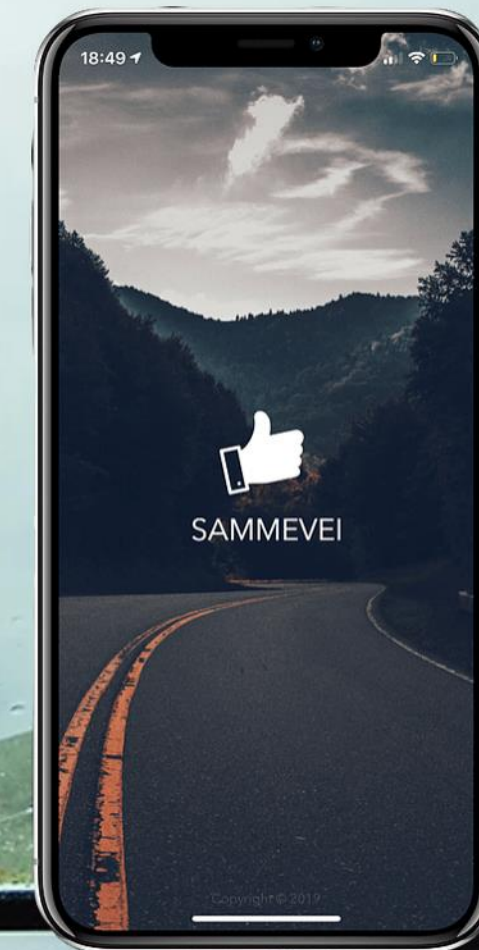
# Norway's leading ridesharing app

Avoid traffic jams  
Save money

Take care of the environment

Download the app and start  
ridesharing today!

SammeVei is a ridesharing app to operate a **zero emission private/public fleet for urban commuting**. Big Data analytics, machine learning and AI are the next steps in developing a SaaS for on-demand urban mobility. This reduces the number of motorized vehicles in the urban area and foster the use of zero emission vehicles.





SG Finans offer **cheaper leasing of green solutions**, while at the same time attracting customers that care for the environment and strengthening their own bottom line. This fosters the use of zero emission vehicles.



REDUCES NUMBER OF MOTORIZED VEHICLES IN URBAN AREA

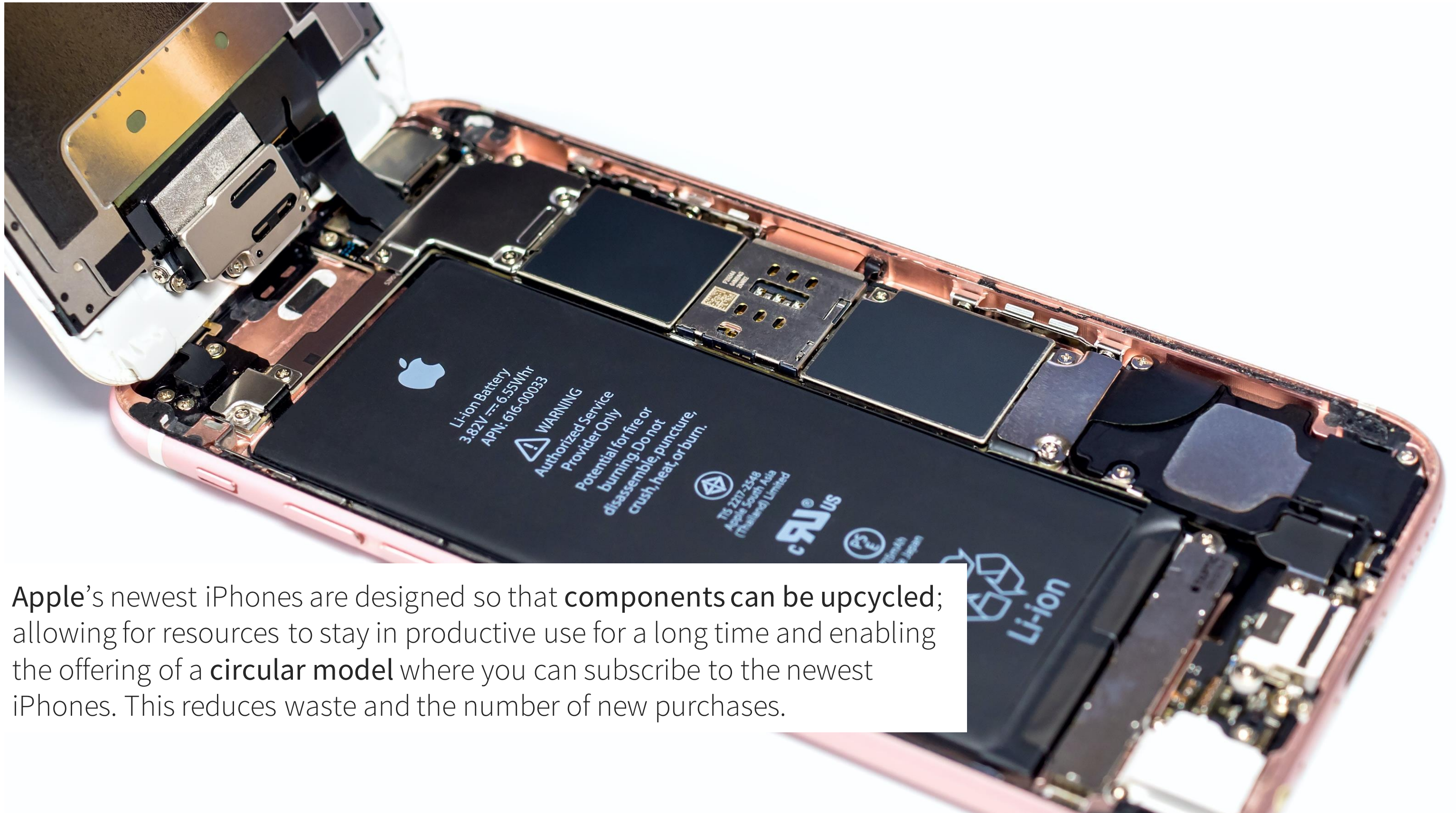


ENCOURAGES SHIFT TOWARDS CLEANER FORMS OF TRANSPORTATION



Uber Eats deliver fresh food through a crowdsourced delivery network of bikes, scooters, and cars; **utilizing capacity in privately owned vehicles.** This reduces the number of motorized vehicles in the urban area and encourages a shift towards cleaner forms of transportation.





Apple's newest iPhones are designed so that **components can be upcycled**; allowing for resources to stay in productive use for a long time and enabling the offering of a **circular model** where you can subscribe to the newest iPhones. This reduces waste and the number of new purchases.

Which solutions have been discussed among contracting authorities?



# Emission requirements to suppliers

## Proposed measures

- Emission requirements in all procurements
- Use of flexible delivery times
- Consolidation of deliveries

## Anticipated positive effects

- Reduction in number of motorized vehicles on the road
- Reduction in CO2 emissions and improved air quality
- Reduction in traffic congestions
- Reduction in traffic accidents
- Positive publicity for municipality and suppliers

## Anticipated barriers

- Technology
- Costs
- Need to follow up on the value chain as a whole

## Potential mediators

- Benefits for zero emission vehicles, such as the opportunity to ride in bus lanes
- Dialogue with conveyors to find right level of emissions

# Zero fossil vehicles in urban areas

## Proposed measures

- Emission requirements with scoring system
- Improved infrastructure, e.g. easy accessible charging stations
- Car-sharing, e.g. rental/leasing of public and private vehicle
- Push political decision to prohibit delivery by vehicles in urban areas

## Anticipated positive effects

- Reduction in number of fossil vehicles on the road
- Reduction in CO2 emissions and improved air quality
- Happy and healthy inhabitants

## Anticipated barriers

- Legislations
- Costs
- Possible negative impact on competition

## Potential mediators

- Dialogue with conveyors
- Dialogue with inhabitants
- Dialogue with decision makers/legislators



# Digital consolidation of deliveries from different suppliers

## Proposed measures

Put into use a digital platform for consolidation of deliveries, to be used by all parties  
Establish a 3<sup>rd</sup> party in the value chain

## Anticipated positive effects

Reduction in number of motorized vehicles on the road  
Reduction in CO2 emissions and improved air quality  
Reduction in traffic congestions  
Improved traffic safety

## Anticipated barriers

Hesitation towards sharing of data and collaboration  
Need to establish new routes for deliveries  
Sub-optimization of conveyors' own logistics

## Potential mediators

Dialogue with conveyors  
Dialogue with suppliers of goods  
Dialogue with suppliers of digital platform solutions

# Publicly owned consolidation hubs

## Proposed measures

- Establish consolidation hubs where goods are consolidated for last-mile delivery
- Requirements suppliers to deliver to hub
- Establish integrated ordering systems

## Anticipated positive effects

- Reduction in number of vehicles on the road
- Reduction in CO2 emissions and improved air quality
- Reduction in traffic accidents
- Happy and healthy inhabitants
- Positive publicity for municipality

## Anticipated barriers

- Need for integrated ordering system and willingness to share data
- Increased lead time and costs due to reloading
- Consolidation of “special” goods, e.g. frozen food and medicine

## Potential mediators

- Dialogue with suppliers
- Inform organization about new routines and lead times
- Add CO2 charge

## Other ideas

 Delivery of smaller goods using public transportation

 Return of goods using the goods delivery value chain

 Return arrangement with collateral for packaging

 Reuse and recycling of materials and inventory

 Partnerships and alliances across industries

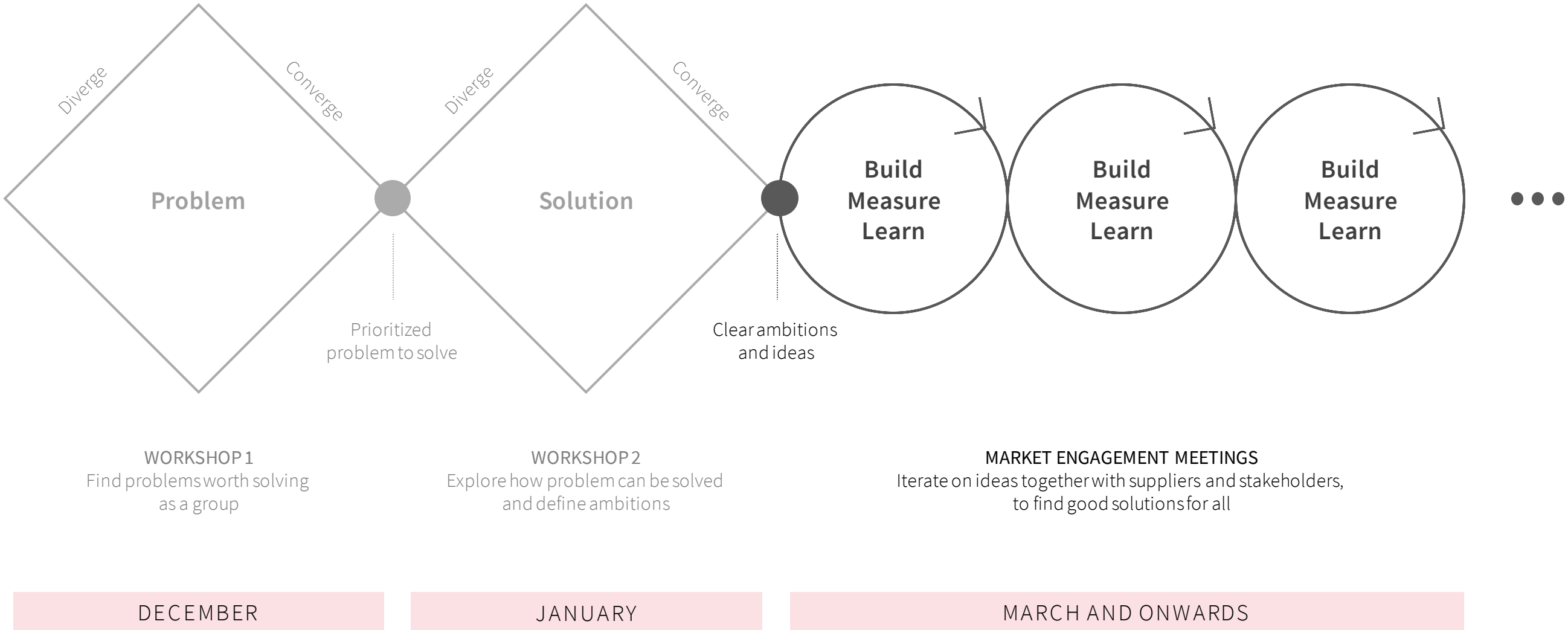
 Common applications with open interface

These are draft ideas –  
now it's your turn!

All the presented solutions are early stage ideas. To find the best solutions, we would like to discuss the ideas with you and gain your feedback and input on how these can be improved.

We are also open for brand new and different ideas, and hope that you will take this opportunity to help us find viable and impactful solutions to achieve the ambition of zero emission delivery of goods.

The municipalities have set their ambitions, next step is to start building



Why attend the Nordic market engagement?



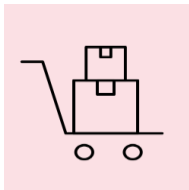


## Contracting authorities

Receive more and new information on how public procurements can contribute to zero emission delivery of goods.

Talk to new companies, entrepreneurs, research communities, and experts.

Be inspired and establish the basis for procurements that contribute to a green transition in the Nordic countries.



## Suppliers / Research communities / Experts

Receive market signals and understand ambitions, needs, and challenges for the contracting authorities.

Meet contracting authorities, other suppliers, research communities, and experts.

Be inspired and see the potential for new business opportunities through new and innovative solutions and alliances.

## Clarity, volume and predictability reduces risk associated with green initiatives

The Nordic market engagement will bring **clarity** about contracting authorities' needs and ambitions, as well as the market's ability to deliver on those needs.



By gathering public contracting authorities with the same needs, we create a larger market and higher **volume** for new and innovative solutions.



Getting together and discussing potential solutions and alliances increase **predictability** for all parties, which might spark initiative and add speed.



Combined, this helps **reduce risk** related to innovation and enables the parties to take lead in the green transition 



Welcome to the Information webinar:

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**Time:** April 29<sup>th</sup> 2020, 12.00-14.00

**Place:** Digitally on Teams

**Register:** <https://events.provisoevent.no/nho/events/zero-emission-delivery-260320/register>

**Agenda:** Information about the project and presentation of the Insights report  
Request for Information  
Questions and answers

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## Detailed agenda

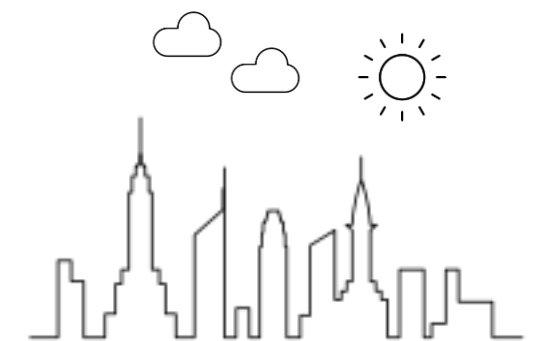
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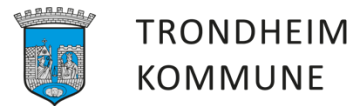
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# We look forward to seeing you!



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Digitaliseringsdirektoratet  
Norwegian Digitalisation Agency



Innovative  
anskaffelser

/ STATENS INNKJØPSSENTER