

The Norwegian approach to electromobility

Jenny Skagestad

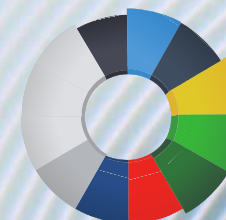
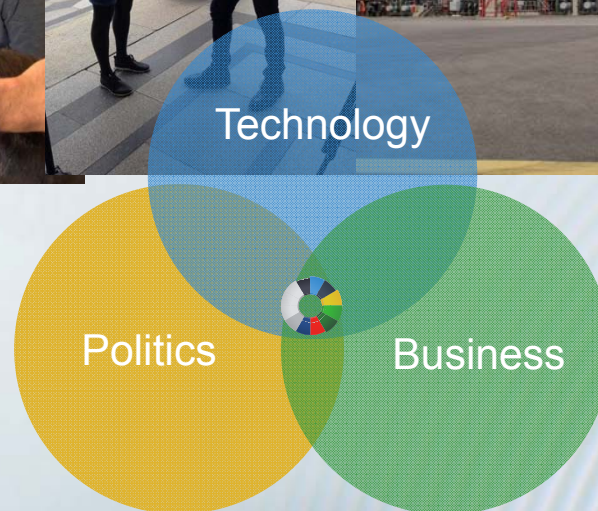
Project manager, zero emission cities

ZERO

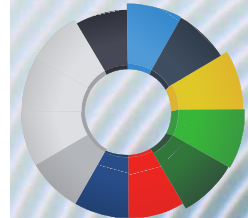
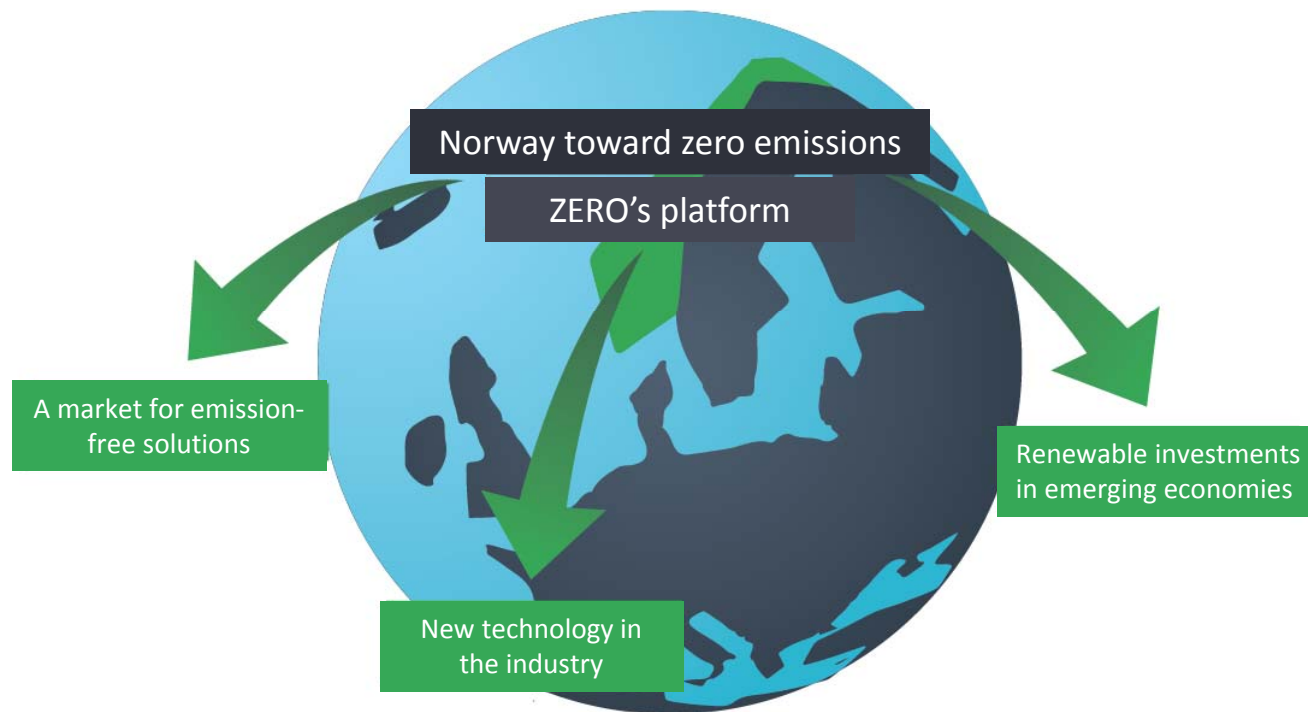




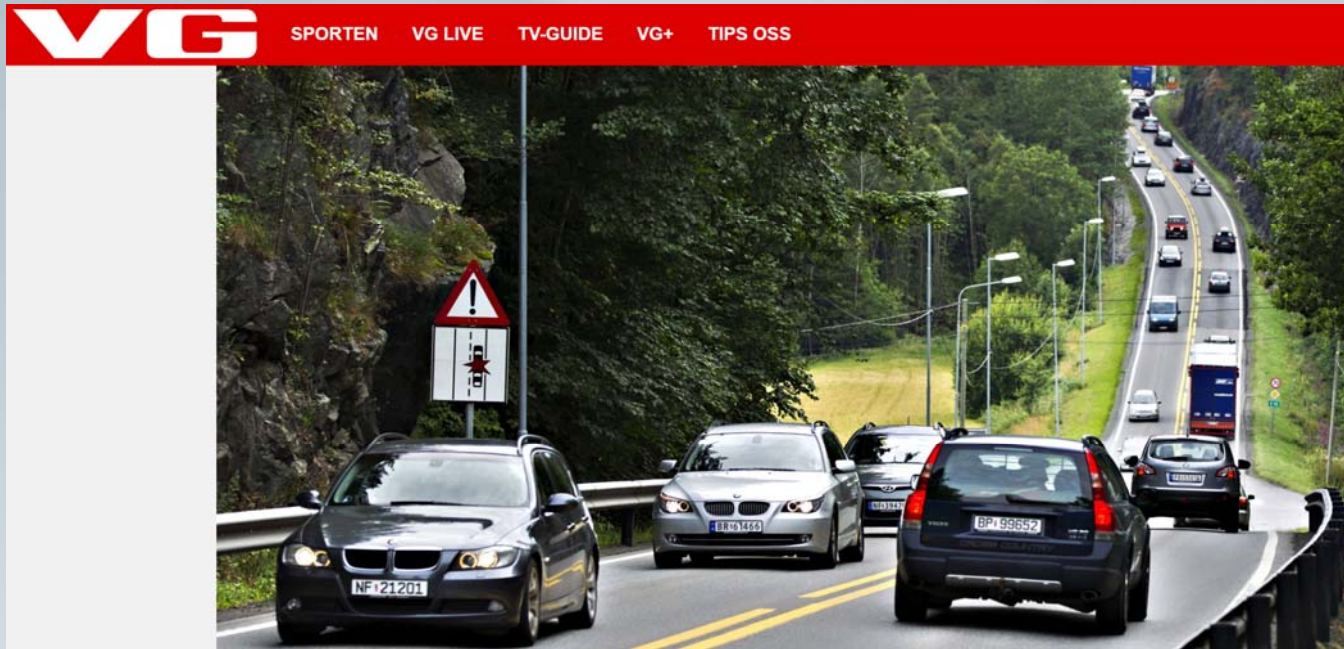
Who is ZERO?



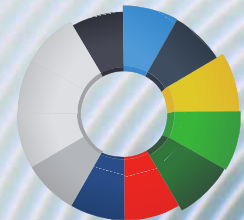
Norway as an instrument for global change



Long waiting list to buy electric cars...



Five experts give advice: - What to do with my diesel car?



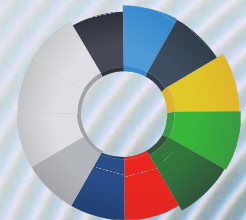
Norway's electric car demand is outstripping supply – with lessons for the EU

Published on 16/03/2018, 7:00am

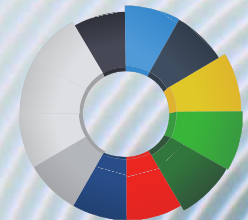
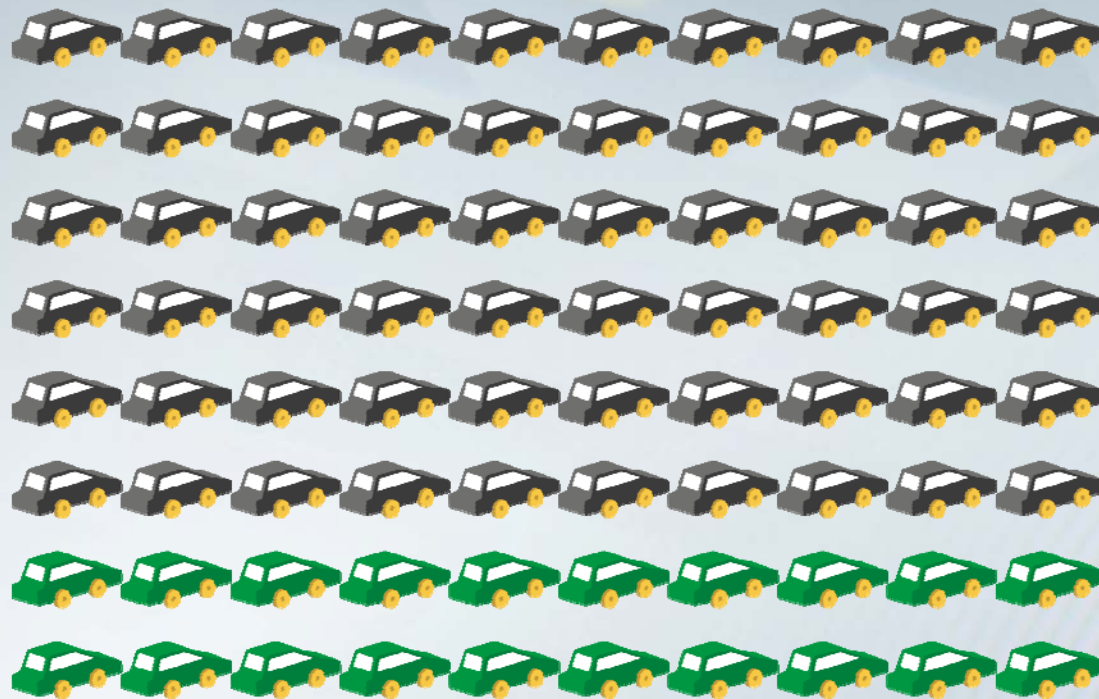
Thousands of Norwegians are on waiting lists for electric cars, showing the success and limitations of policy incentives



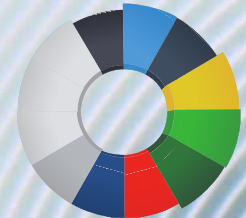
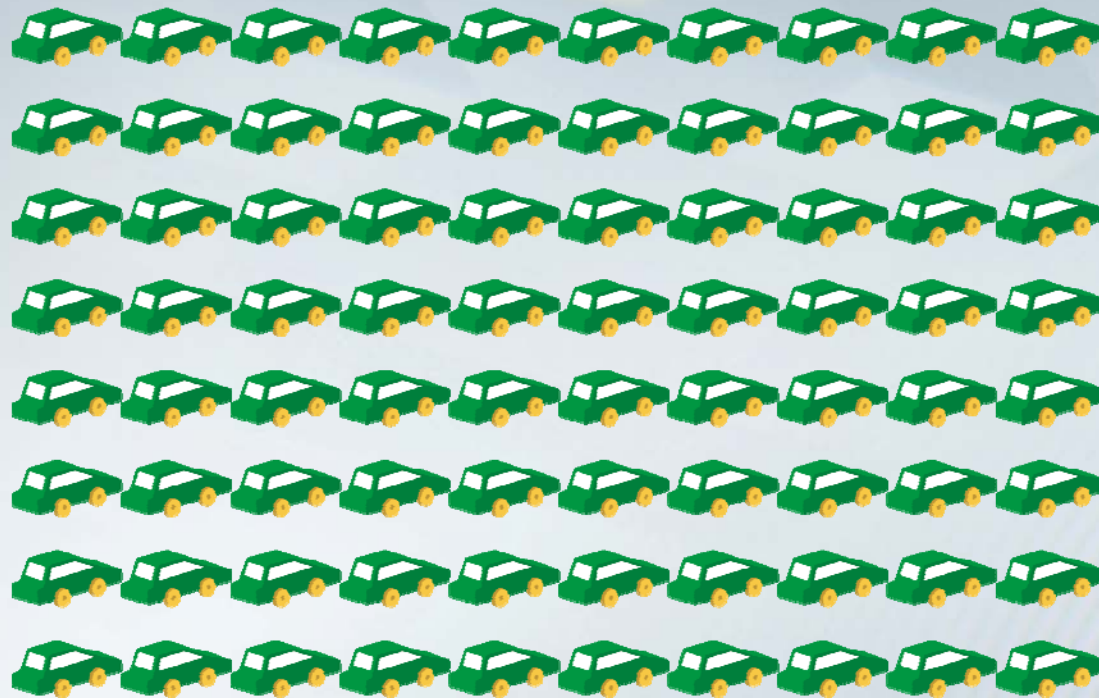
New cars sold in Norway 2005



New cars sold in 2015



Goal: New cars sold in 2025

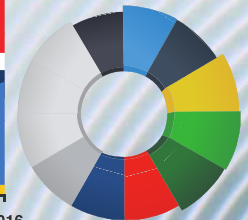
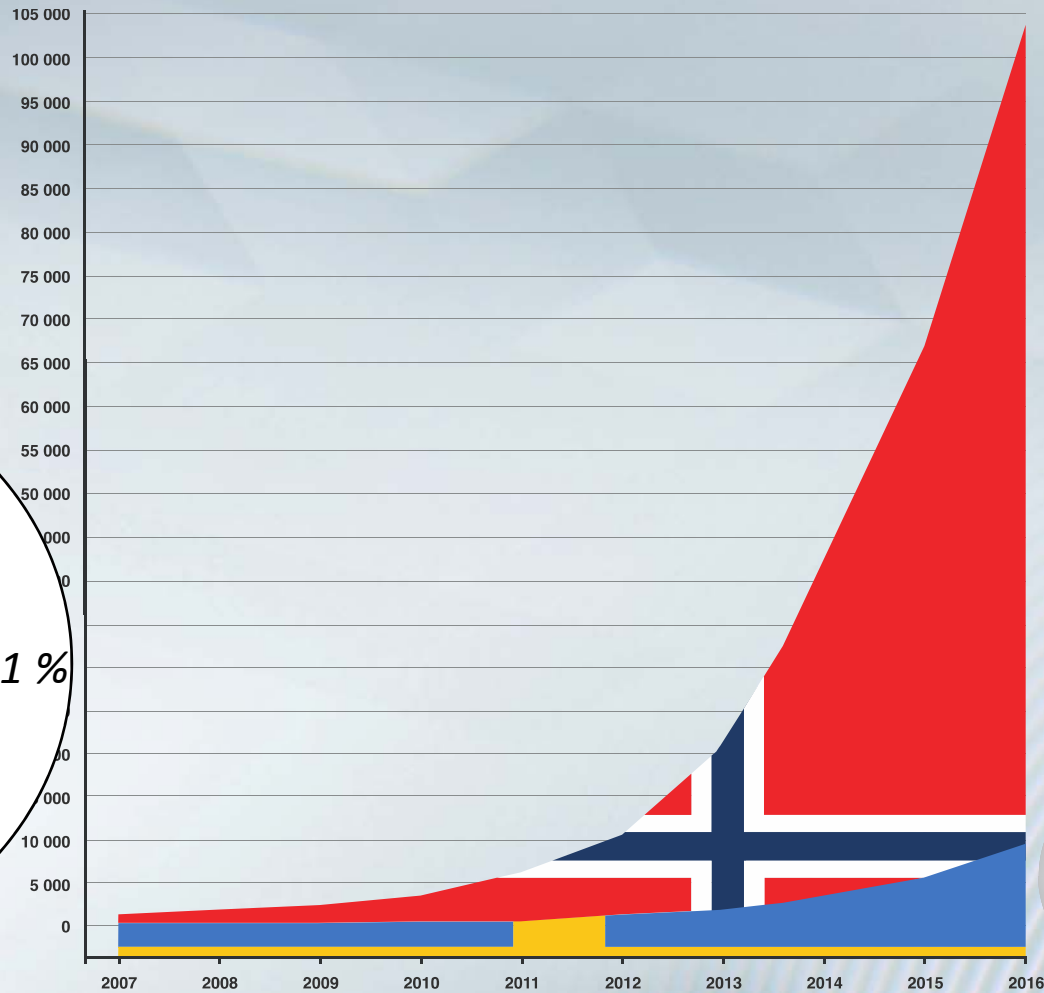


The number of
fully electric cars
in Norway and
Sweden
from 2007-2016

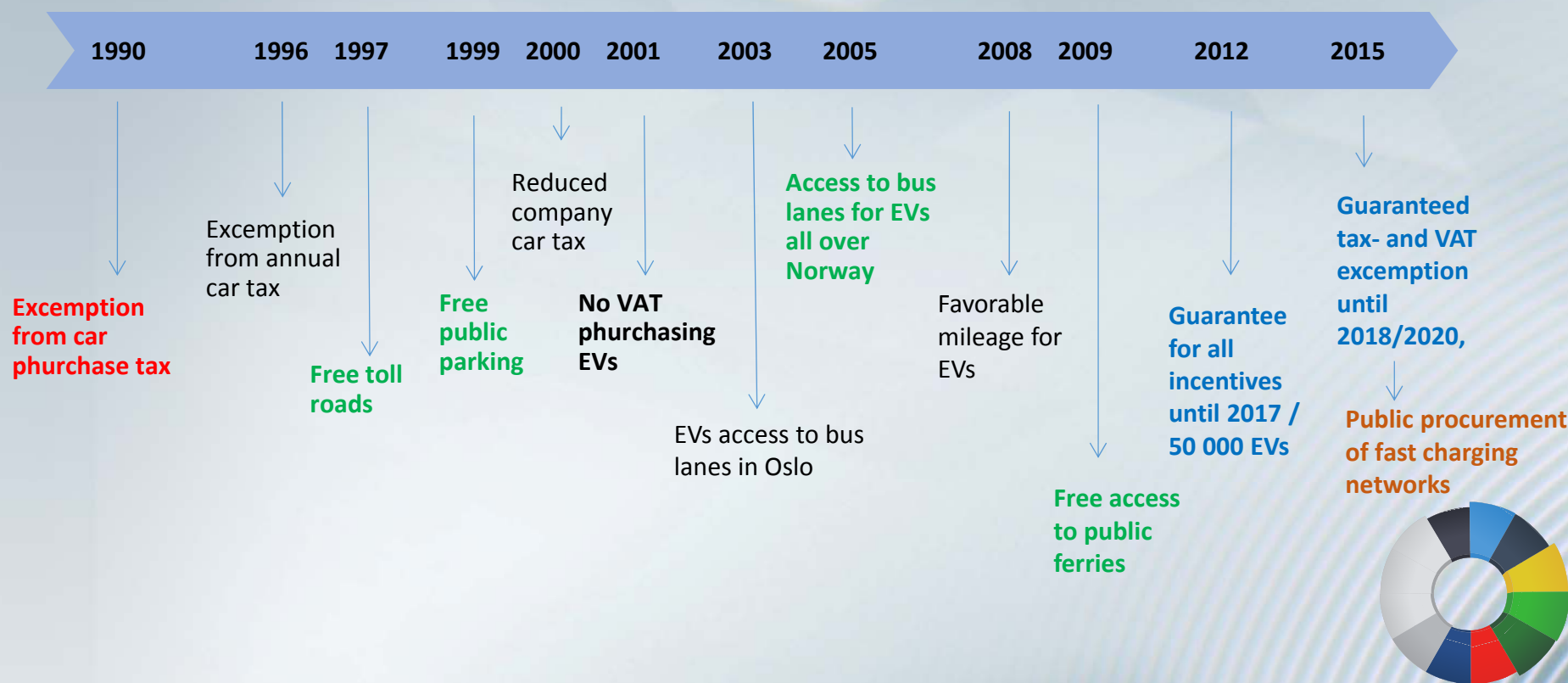
New cars sold in 2017:

- Electric cars 21 %
- *Chargable cars in total 51 %*
- Diesel 23 %
- Petrol 25 %

2017: 145 000 electric cars in Norway



The Norwegian EV incentives on a timeline



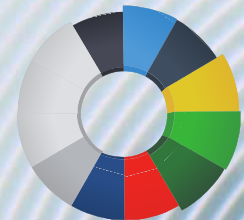
We want a guarantee:

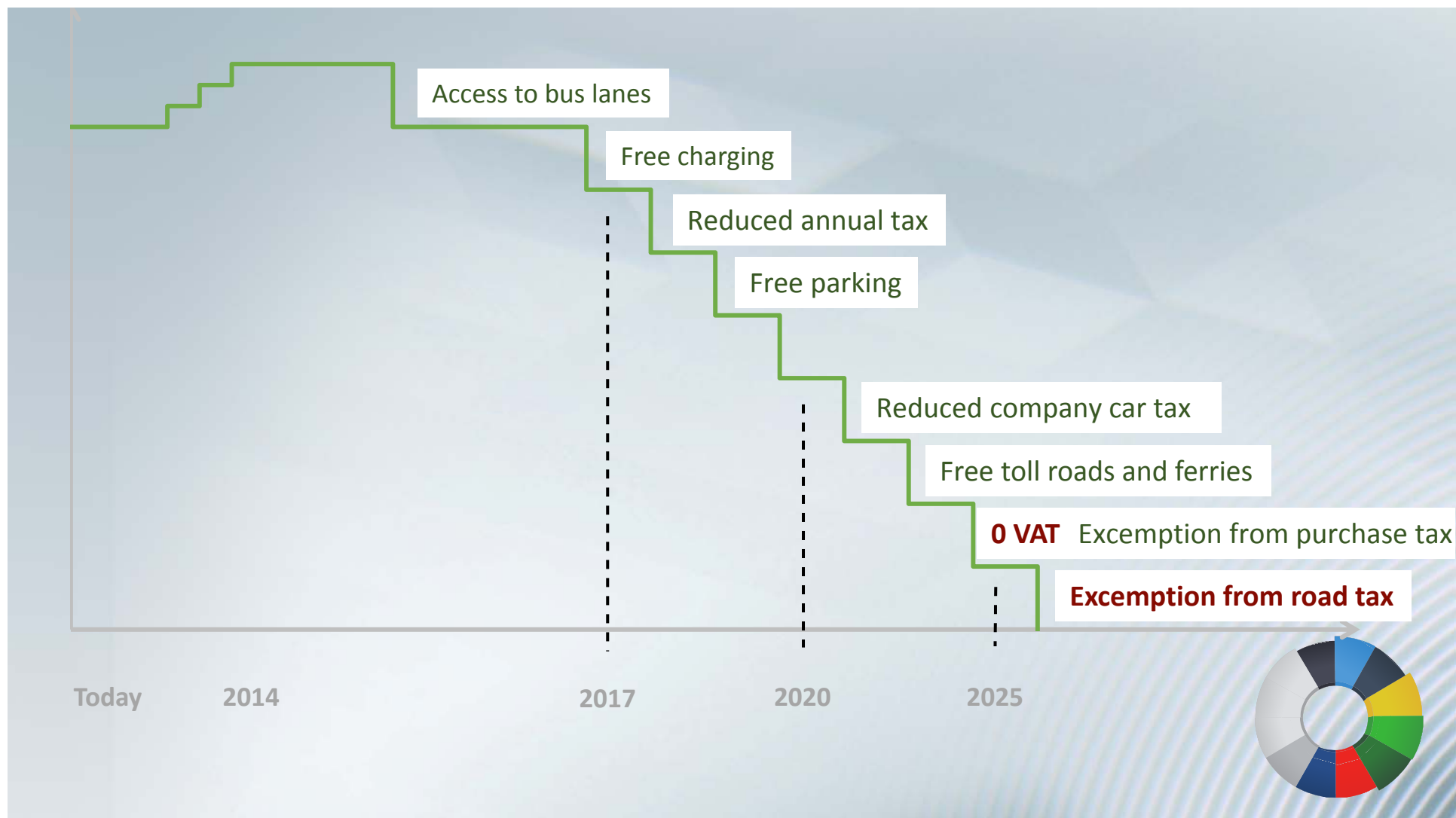
*Zero emission vehicles
should **always** be
competitive compared to
petrol/diesel engines*



Competitive =

competitive in total cost of ownership
&
disadvantages will be compensated

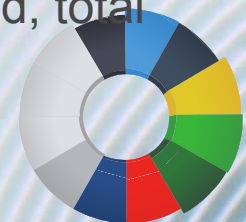




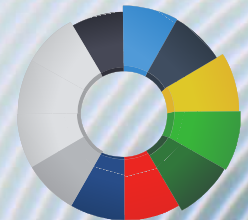
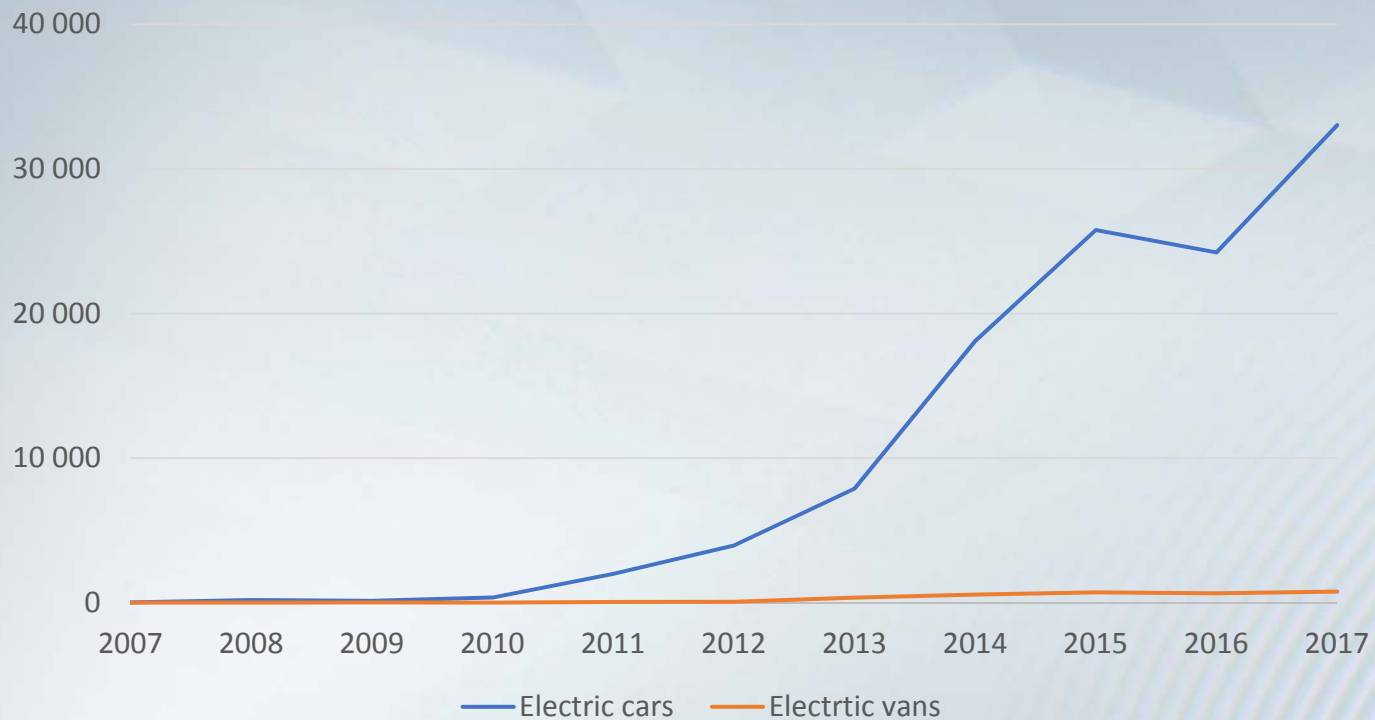
The government's policies and goals



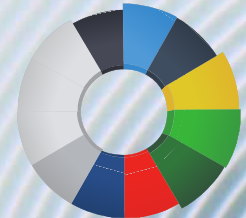
- Tax exemptions prolonged to 2021
- Max 50% toll, parking and ferry cost for electric vehicles
- All new passenger cars and light vans emission free by 2025 (< 1 ton payload)
- All new heavy vans emission free by 2030 (≥ 1 ton payload, total weight $\leq 3,5$ ton)



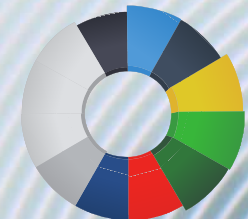
But where are the eVans?



Light electric vans are available







Bigger electric vans are missing

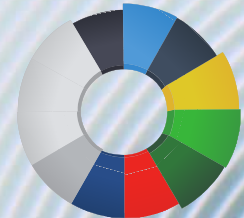


ZERO demand measures for eVans:

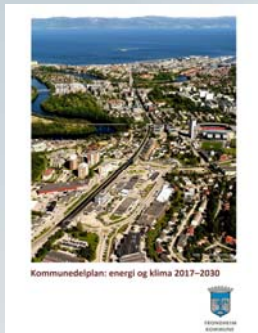


	
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	Kr 44
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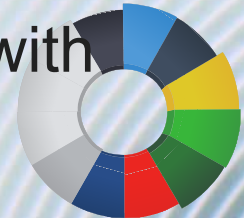
- Prolong tax exemptions and local incentives longer for eVans than personal vehicles
- Measures for eVans from Enova
 - Information campaign
 - Economic support for charging infra for fleet owners
 - Strengthen and simplify today's scheme
- Organize the demand side



Big cities are front runners



- Ambitious goals
- Time and environment-differentiated toll roads
- 3x or 5x road toll on very polluted days
- Planning low or zero emission zones, fossil free city centers
- Facilitate zero emission transport with charging stations



Distribution of emissions from transport in Oslo

Source: Statistics Norway combined with The City of Oslo's own numbers, 2013.

PRIVATE CARS

 39%

All new cars renewable/plugin 2020

TAXI



3% Zero emission 2022

PUBLIC TRANSPORT



3% Renewable by 2020 – Electric by 2028

LEIGHT FREIGHT VEHICLES



10% All new vehicles renewable/plugin 2020

HEAVY DUTY VEHICLES



15%

- Minimum 20 % renewable 2020
- All renewable 2030
- Transport to/from the port zero emission

CONSTRUCTION MACHINERY



30%

All vehicles able to be renewable 2030

Ebikes on the rise

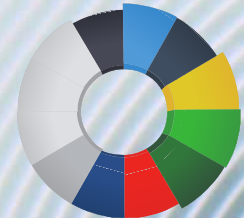
Bikes can take 50 % of urban freight-related transport (EU-report)



Oslo: Fossil free public transport in 2020, only ebuses by 2028



**Parliament
resolution:**
All public
transport to be
zero (or low)
emission by 2025



Ebuses in Norway

TRONDHEIM

35 ebuses
In 2019

DRAMMEN

6 ebuses in 2018

STAVANGER

5 ebuses
From 2015/2017

TROMSØ

2 in 2019

Lillehammer and Hamar

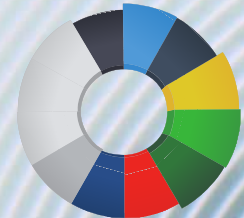
4+ ebuses 2018

OSLO

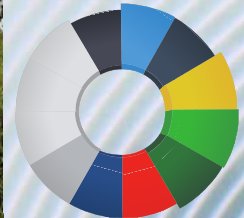
6 ebuses in 2017
2 fuel cell buses

Kristiansand

5 ebuses in 2018

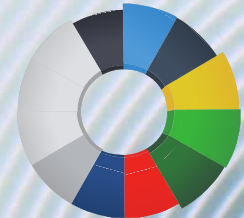


Trondheim fossil free buses in 2019 35 ebuses (10 articulated)



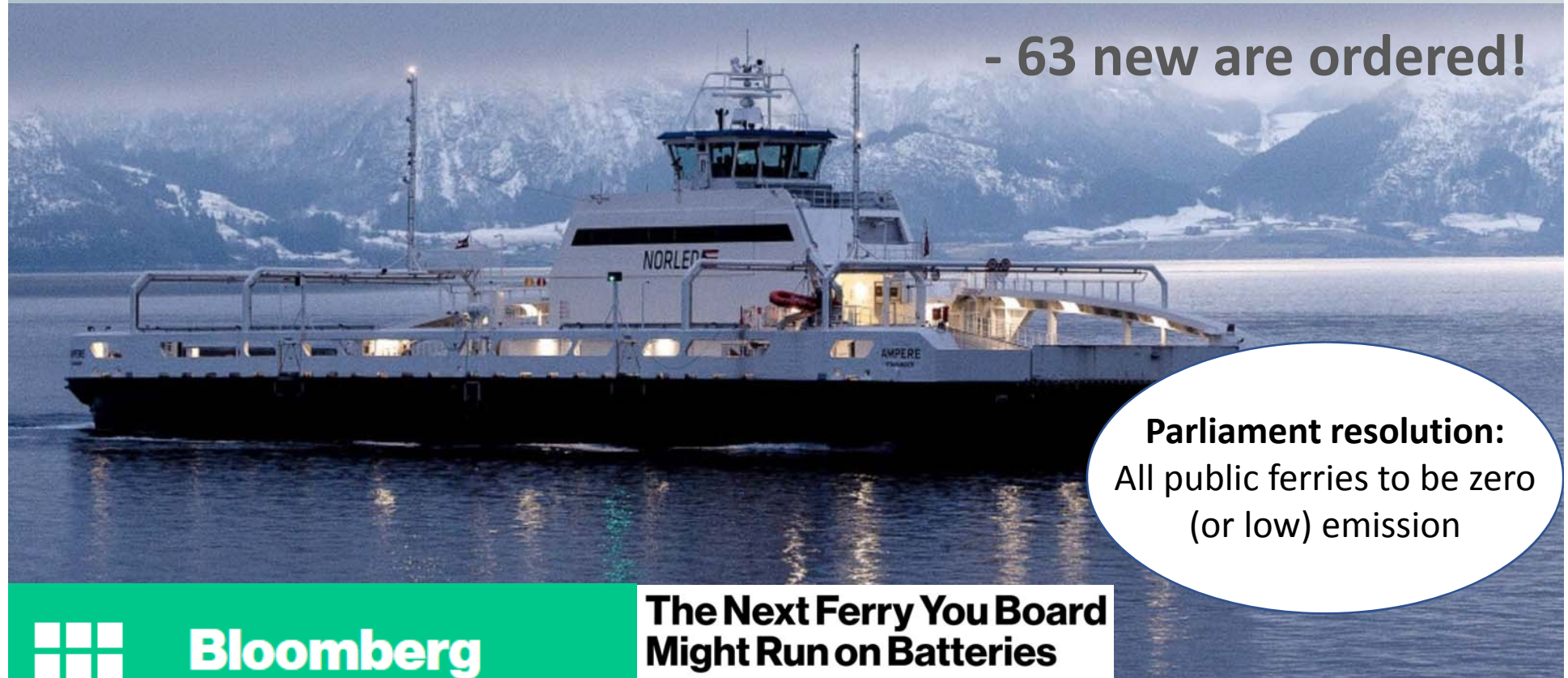
Construction machines: Fossil free

Electric



The world's first fully electric car ferry (2015)

- 63 new are ordered!



Parliament resolution:
All public ferries to be zero
(or low) emission



**Bloomberg
Technology**

The Next Ferry You Board Might Run on Batteries

It's the first step towards cleaning up the world's fuel-guzzling shipping fleets.

By **Mikael Holter** and **Jeremy Hodges**
13. mars 2018, 06:00 CET



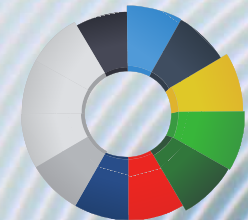
The first fully electric ferry service (2018)



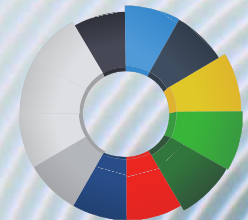
Vision of the Fjords – plugin hybrid tourist boat



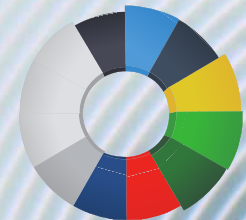
Future of the Fjords – fully electric tourist boat



Plugin hybrid passenger ship Sandefjord-Strømstad



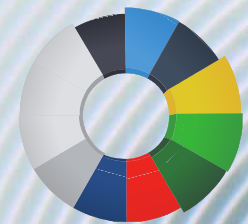
Electric autonomous container ship



Electric garbage trucks

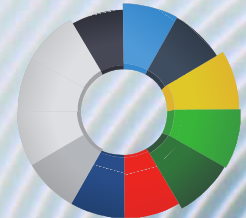


Vision of Avinor: All domestic air traffic electric by 2040



Learnings from Norway

- EV-incentives must be strong enough to ensure that EVs are competitive
 - Purchase prize
 - Utilization
- EV-incentives should be developed to withstands rapid growth
- It is possible to achieve an environmentally justified support behind a strong EV-policy - even in countries without economic interests in EVs



Thank you!

