



The Sector's Societal Impact

Denmark's road freight transport supported the employment of 88,000 people in 2016. When including the contribution of external suppliers, the sector supported a contribution to Denmark's GDP totalling about DKK 60 billion in 2016. Road freight transport directly contributed 1.7% to Denmark's GDP. This shows how the sector is an important factor for the Danish economy and employment.¹

Climate Partnership for Inland Transport

Transport plays a key role in our society as an important prerequisite that enables Denmark to maintain its prosperity. This makes the sector an important player whenever change is needed. In this document, the Partnership proposes initiatives that can contribute to the green transformation and safeguard our competitiveness at the same time.

The green transition of the transport sector is under way, but the process takes time. Therefore, it requires putting the objectives into action. Several political priorities need to be set, frameworks established and time schedules planned. Also, sufficient resources need to be allocated to enable the sector's green transformation to get started.

For years, Danish transport and logistics companies have been leading the way in terms of ensuring efficient transports. This is a fundamental competitive parameter in the sector which – by means of optimised logistics, intelligent fleet management and a targeted effort to minimise fuel consumption – is now capable of conveying more freight with lower emissions than previously.

This effort still has untapped potential to

draw on. But spurring the green transformation to action in earnest necessitates a more widespread use of alternative fuels. The inland transport sector is made up of road and rail operators. The road segment comprises lorry hauliers, shipping agents, coach operators, taxi operators and other companies in the freight transport area. Inland transport also involves a high degree of logistics. Moreover, the sector is characterised by a fragmented business structure with thousands of small and medium-sized enterprises. Denmark has roughly 4,900 road haulage undertakings. The sector constitutes 1.6% of the Danish economy (measured in terms of GVA 2015). Rail-area operators comprise rail freight undertakings, shipping agents, combined transport companies, operators of intermodal terminals, etc. Fewer than ten railway undertakings operate on

Denmark's railway network.

Inland transport, including lorries, delivery vans and buses, is responsible for about 32% of the transport sector's carbon emissions in Denmark. For example, more than 99% of Denmark's 42,000 lorries still run on 93% petrodiesel fuel. The example shows how the transport sector is working on the transformation process by the admixture of 7% biodiesel. Yet it also highlights an unrealised capacity for further reducing the carbon emissions of heavy transportation.

Green transformation can be generated in three principal areas

- **The transport process** can be further streamlined. This can be done through driving-pattern optimisation, capacity utilisation, off-hour deliveries, etc. But it can also occur by lengthening combined vehicles and increasing the total weight of the vehicles themselves. Many of these initiatives can be implemented by the sector itself.

¹ Road freight transport's contributions to Danish employment and GDP are based on analyses made by ITD and Copenhagen Economics.



- **A wider selection** and greater use of green vehicles can be encouraged. Converting the taxation system could promote the purchase of low-emission and zero-emission vehicles, and enlarging the refuelling and charging infrastructure for green fuels could break down barriers to the use of green vehicles.
- **Green fuels can** be promoted. A decarbonisation requirement and tax exemption for sustainable fuels could secure a technology-neutral conversion process, while safeguarding Danish competitiveness at the same time.

The proposals presented in the report aim to provide realistic solutions that are implementable within the foreseeable future and contribute genuine, significant reductions up to 2030 – while preserving Danish jobs and Denmark’s future competitiveness at the same time.

A total of 45 organisations, undertakings and experts took part in the task of contributing to the specific initiatives and the report as a whole.

A number of the key recommendations from the Climate Partnership for Inland Transport are listed below.

The Sector’s own initiatives

Eco-driving

Eco-driving is already included in the statutory supplementary training programme. Nevertheless, it is worth considering whether it should be given higher priority than is the case today in terms of both the road and rail segments of the transport sector. Experience shows that eco-driving reduces fuel consumption by 10% on average.

Eco-driving is classically defined as the optimisation of the driver’s driving patterns, but also includes in-service driver training which enables drivers to use the

options available in modern vehicles for eco-friendly driving.

Delivery outside peak-hours

Delivering goods outside peak-hours has the potential to reduce fuel consumption by 7%. This should be supported by legislation to enable night delivery, provided that the noise does not exceed a specified level to prevent permits being confiscated without warning and leading to financial loss for hauliers and the retail sector.

Proposals for the government

Decarbonisation requirement

The Climate Partnership proposes a model with a gradually increasing decarbonisation requirement for fuel suppliers in Denmark up to 2030.² This aims to ensure that the heavy transport segment which is not electrified can significantly reduce carbon emissions from 2020 to 2030, until such time as technological solutions are put into use that can help reduce carbon emissions even more.

At the same time, it is recommended that fuel taxes be converted to motivate carbon-emission reductions more specifically. In so doing, the conversion will make alternative fuels relatively cheaper compared to fossil fuels and stimulate the market for alternative fuels with the greatest decarbonisation rate. At the same time, lowering the cost of alternative fuels will reduce the total cost for buying vehicles powered by alternative fuels.

Whether the decarbonisation requirement should be 15% or 30% (or at a different level altogether) should be decided in a comprehensive national planning process based on an impartial, cost-effective analysis of Denmark’s decarbonisation that considers the conditions of all sectors. It would not benefit the climate if Denmark’s transport tasks were to be taken over by foreign undertakings using cheaper fuels purchased abroad.

When determining the specific decarbonisation requirement, an essential prerequisite for a decarbonisation



²The decarbonisation requirement will actually apply to the entire transport sector, as it is not realistic in practice to impose requirements that apply solely to fuel sold to the heavy transport segment. This is also why the carbon effect will be significantly greater than specified for heavy transport.



proposal – which considers the climate effect, competitiveness and cross-border trade – is that the state continuously reduces taxes on alternative fuels in the period from 2020 to 2030 so that the fuels' total price falls to a level equivalent to Denmark's neighbouring countries.

In the long term, a decarbonisation model should be rooted at EU level and include the revision of directives governing fuel quality, renewable energy, energy taxation, etc., so that they underpin the green transformation throughout the EU.

Double trailers

Experiments should be launched to examine new vehicle configurations. Specifically, experiments should be launched involving double-trailer combined vehicles, in which the combined vehicle is made up of two standard semi-trailers

(up to 32 metres). This configuration will have an even greater positive climate effect than existing long combination vehicles. In this respect, one could draw on lessons learnt in Sweden.

In the event it is made legal for two-axle and three-axle semi tractors to pull double trailers in Denmark, a market-based assessment estimates that roughly half of the two-axle tractors could transition to pulling double trailers, while roughly one-third of the three-axle tractors are deemed capable of transitioning to double trailers.

It is assessed that this could generate annual decarbonisation totalling 110,000 tonnes and savings for the sector on diesel costs totalling DKK 250 million a year.

Proliferation of green vehicles

To promote the market for heavy vehicles running on alternative fuels in

Denmark, it is proposed that a Danish subsidy scheme be set up for the first 10,000 heavy vehicles that run on alternative fuels (such as biogas, electricity or hydrogen) up to 2030.

In addition, the motor vehicle tax should be restructured to support delivery vans running on alternative fuels, so that green motor vehicle taxes reflect carbon emissions rather than energy consumption.

A national plan for the establishment of a charging infrastructure should be established to support the conversion to electric taxis and delivery vans.

Electrofuels

At present there is no silver-bullet solution capable of resolving the climate challenges and ensuring a 70% reduction for inland transport. Reliability of supply, range, added costs, etc., are a number of the challenges facing the familiar technologies that make it difficult to fully utilise them today.

Electrofuels draw on Power-to-X technology which converts renewable energy into hydrogen through electrolysis. Together with nitrogen, the hydrogen from bio material and CO₂ from carbon capture can be reconfigured into a sustainable, synthetic liquid or gas fuel. Possible fuels are e-petrol, e-diesel, e-gas, jet fuel and methanol for instance. It is also possible to produce ammonia which does not require a source of CO₂.

The advantages of electrofuels are that they have the same quality as traditional fossil fuels and are carbon neutral. This means that electrofuels can power ordinary combustion engines and even ships and aeroplanes.

The technology is still at an early stage of development. But experiments are being conducted in a number of European countries to scale up Power-to-X technology so it can be used in the development of alternative fuels, etc.

Electrofuels are defined as inland transport's moon shot, but it is difficult to see how they can be realised on a large scale before 2030. With an overarching goal for a carbon neutral Denmark and Europe by 2050, it is necessary to launch the project already now, so we can achieve the goal in time.

Combined overview of calculated initiatives and expected decarbonisation
(example: 15% decarbonisation requirement)

Millions of tonnes of carbon emissions	2021	2025	2030
1. Fuel proposal concerning decarbonisation (example of phasing in by 15% in 2030)	0.10	0.50	0.70
2. Eco-driving	0.05	0.05	0.05
3. Off-hour deliveries	0.00	0.05	0.05
4. Double trailers	0.05	0.11	0.11
5. Proliferation of low-emission and zero-emission vehicles, lorries	0.00	0.10	0.20
6. Proliferation of low-emission and zero-emission vehicles, delivery vans	0.00	0.10	0.30
7. Taxis (example: carbon neutral from 2025)	0.04	0.12	0.12
Combined potential	0.24	1.03	1.53

Combined overview of calculated initiatives and expected decarbonisation
(example: 30% decarbonisation requirement)

Millions of tonnes of carbon emissions	2021	2025	2030
1. Fuel proposal concerning decarbonisation (example of phasing in by 30% in 2030)	0.10	0.80	1.10
2. Eco-driving	0.05	0.05	0.05
3. Off-hour deliveries	0.00	0.05	0.05
4. Double trailers	0.05	0.11	0.11
5. Proliferation of low-emission and zero-emission vehicles, lorries	0.00	0.10	0.20
6. Proliferation of low-emission and zero-emission vehicles, delivery vans	0.00	0.10	0.30
7. Taxis (example: carbon neutral from 2025)	0.04	0.12	0.12
Combined potential	0.24	1.33	1.93