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Possibilities of Low-Carbon Logistics Systems in Finland

Part 2: Road Transport

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Contents

1. Introduction

- The most recent EU policy programmes aimed at reducing emissions from road freight transport include:
  - **Greening Freight Transport** (European Commission 2023)
    - The objective of the programme's measures is to improve the efficiency and sustainability of transport and to support the achievement of transport emission reduction targets. The programme forms part of the implementation of the EU Sustainable and Smart Mobility Strategy.
    - The programme increases incentives for low-emission heavy-duty vehicles, for example through the revision of the Weights and Dimensions Directive and the development of vehicle aerodynamics.
  - **Automotive Industry Package** (European Commission 2025)
    - The package sets out a strategy for the automotive industry with the goal of achieving climate neutrality by 2050.
    - It includes, among other things, proposed changes to CO_2 emission standards for heavy-duty vehicles.
    - The manufacture of low-emission vehicles in the EU is promoted through requirements linked to public financial support, and the development of battery value chains is supported through a battery booster initiative.

EU Regulation – Road Transport and Vehicles

- **AFIR Regulation on Alternative Fuels Infrastructure**
  - Finland's National Programme for Alternative Transport Fuels Distribution Infrastructure (Ojala et al. 2024)
- **Emissions Trading Directive**
  - covers, among others, road transport and work machinery
  - emissions trading for fuel distributors in the EU starting in 2028
  - gradual reduction of emission allowances to drive emission reductions
  - in Finland, a professional diesel scheme has been proposed to mitigate cost increases
- **EURO 7 Emission Standard for Heavy-Duty Vehicles**
  - by 2035: nitrogen oxides −56%, particulate matter −39%, improved battery durability
- **CO_2 Emission Standards Regulation for Trucks and Trailers**
  - emission reduction targets compared with 2019 levels: 2030: −45%, 2035: −65%, 2040: −90%
  - a specific calculation method applies in Finland for extra-heavy vehicle combinations (EHC)
- **Revision of the Weights and Dimensions Directive** (ongoing)
  - national derogations for domestic transport to remain permitted

Finland's Medium-Term Climate Policy Plan (KAISU3) and the Renewable Fuel Distribution Obligation

- In the action programme of the Medium-Term Climate Policy Plan, KAISU (Ministry of the Environment 2025), the additional measures for road freight transport for the period 2025–2030 consist mainly of various support schemes and incentives:
  - Purchase subsidies for clean heavy-duty vehicles (electric-, hydrogen- and methane-powered trucks)
    - Continuation of purchase subsidies for electric-, methane- and hydrogen-powered trucks in 2026–2030.
  - Purchase subsidies for heavy-duty vehicles for micro-enterprises (SCF measure)
    - Introduction of a purchase subsidy for electric- and hydrogen-powered trucks and buses for micro-enterprises.
  - Support for public alternative fuels infrastructure – compliance with AFIR requirements
    - Continuation of support for the construction of public alternative fuels infrastructure at EUR 10 million per year.
- The implementation of KAISU will be monitored in connection with the annual climate reports.
- In national regulation, a key instrument is the Act on Promoting the Use of Renewable Fuels in Transport (446/2007). The renewable fuel distribution obligation will increase from the current 19.5% to 22.5% in 2027. In the period 2028–2030, the level will rise from 31% to 34%.

2. Low-Carbon Solutions in Road Transport

- For timber road transport, this study focuses mainly on different vehicle propulsion systems as emission reduction measures.
  - Measures to improve the energy efficiency of road transport are addressed in the *Energy Efficiency Guide* prepared within the ACE project (Poikela and Venäläinen (eds.) 2025). Factors influencing energy efficiency include, among others, vehicle characteristics and maintenance, transport route characteristics and conditions, and driver behaviour.
  - The current situation of distribution infrastructure for alternative propulsion systems in heavy-duty road transport is presented in slide 19.
  - High Capacity Transport (HCT) combinations exceeding 76 tonnes are discussed in slide 21.
  - Taxation of different propulsion systems and emissions trading in road transport are addressed in slides 22–23.
- In the impact assessments, comparisons have been made against 76-tonne diesel-powered vehicle combinations.
  - The renewable fuel distribution obligation can today be met through several options (renewable diesel, biogas, and electricity for transport). As a result, defining a reference case based on “conventional diesel” is becoming increasingly challenging in comparative assessments.

WEM-P scenario for the development of the truck fleet (Koljonen et al. 2024)

	2022	2030	2040	2050
Diesel	89 700	88 000	74 400	52 900
Gas	500	2 200	5 300	7 900
Electric	25	2 400	13 000	27 900
Hydrogen	0	200	2 500	8 100

Petrol-powered trucks have been excluded from the table. The scenario is not presented by vehicle size class, although development trends may differ substantially between size classes.

Summary of Emission Reduction Measures for Road Transport

Measure	Current status timber and chips	Impact CO_2e emissions1*	Impact CO_2e emissions2**	Impact transport cost
HVO	<10 vehicles	–100 % per litre	–68 % per litre [1]	+4,5–6,5 %/m^3 timber [2]
LBG	30 vehicles	–92 % [3]	–45 % [3]	–0,2 % BAU scenario [3]
Electricity	1. vehicle 2026, In Sweden 15+	–100 %	–93 % timber and chips [4]	+7–11 % timber, +6–8 % chips [4]
E-axle	0, (on the market)	–5…–15 % timber [5]	*Not calculated*	*No estimate available*
Hydrogen	0, (testing phase)	–100 %	*No estimate available*	+64 % (fuel cell) [6]
RFNBO	0, (distribution obligation 2028)	–100 %	>70 %	Production cost 1 500–3 200 €/t [7]
HCT (> 76 t)	Pilots	–3…–10 %/green t timber, –4…–20 %/green t chips [8]	–3…–10 %/green t timber, –4…–20 %/green t chips [8]	–3…–16 %/m^3 timber, –2…–17 %/m^3 chips [8]

Note: Differences exist in comparison bases and reference years. Comparison against diesel compliant with the renewable fuel distribution obligation.
**Tank-to-Wheel (TTW) operational emissions / **Well-to-Wheel (WTW) life-cycle emissions of the propulsion system*
[1]Ojala et al. 2025 [2]Juntunen 2023 [3]Huuskonen et al. 2025 [4]Venäläinen et al. 2025 [5]Kinnunen 2023 [6]Levälehto 2025 [7]Sipilä and Lottonen 2024 [8]See Annex 1

a) Alternative Fuels and Propulsion Systems
Bio diesel and HVO diesel

- **Current situation**
  - The share of bio-content in diesel now varies between fuel distributors, as the renewable fuel distribution obligation can be met in different ways (renewable diesel, biogas, electricity for transport).
  - In HVO, the share of renewable diesel is 100%. In Finnish timber and wood chip transport, HVO is used in fewer than ten vehicles. HVO is available at almost one hundred heavy-duty fuel stations in Finland (ABC Nero Diesel, Neste MY Renewable Diesel, St1 HVO). The distribution network in Eastern and Northern Finland is sparse. The closure of Teboil stations has reduced the availability of HVO.
- **Objectives**
  - The use of biodiesel is part of the renewable fuel distribution obligation, and there is no separate target for increasing its use.
- **Development outlook**
  - The use of biodiesel is expected to remain significant also in the coming years due to the tightening of the distribution obligation, the extensive distribution network, and its relatively good cost competitiveness compared with new propulsion systems.
  - The use of HVO diesel is constrained by its high price. Competition for feedstocks is increasing as a result of renewable fuel requirements in aviation and maritime transport (Levälehto 2025).
- **Impacts**
  - The operational CO_2e emissions of HVO per litre are 100% lower, and life-cycle emissions are 68% lower, than those of diesel compliant with the 2024 distribution obligation (Ojala et al. 2025). According to simulations by Levälehto (2025), fuel consumption of HVO diesel is slightly higher than that of conventional diesel.
  - Biodiesel and HVO can be used in existing internal combustion engine vehicles, so they do not result in higher vehicle acquisition costs. HVO diesel is more expensive than conventional diesel (see slide 7)

Methane (LBG) 1

- **Current situation**
  - According to Metsäteho's survey, there are 15 liquefied biomethane (LBG)-fuelled trucks in timber transport and 15 in the transport of industrial roundwood and energy wood chips in Finland. Compressed biomethane (CBG) is used in smaller truck size classes.
  - There are currently just under 40 public LBG refuelling stations for heavy-duty vehicles in operation. More than 10 additional stations are under planning.
- **Objectives**
  - According to the Alternative Fuels Distribution Infrastructure Programme (Ojala et al. 2024), the targets for Finland are:
    - a total of approximately 5,000 CBG- and LBG-fuelled trucks by 2030;
    - at least 60 LBG stations by 2030, with the number continuing to increase in line with fleet growth up to 2035.
  - At EU level, an increase in biomethane production is being pursued as part of the RePowerEU programme.

Methane (LBG) 2

- **Development outlook**
  - According to a survey conducted among forest companies, additional LBG-fuelled trucks are expected to be introduced for timber and wood chip transport.
  - The Medium-Term Climate Policy Plan, KAISU (Ministry of the Environment 2025), proposes purchase subsidies for methane-powered trucks for the period 2026–2030.
  - In Finland, several LBG refuelling stations and production facilities are planned or under construction.
- **Impacts**
  - Biomethane is fossil-free but is not classified as a zero-emission propulsion system. A 69-tonne LBG timber truck reduces operational CO_2e emissions by 92% and life-cycle emissions of the propulsion system by 45% per tonne-kilometre compared with diesel (Huuskonen et al. 2025).
    - Diesel was used as the auxiliary fuel in the calculations; the emission reduction would be greater if HVO were used instead.
  - According to the study by Huuskonen et al. (2025), the annual costs of a 68-tonne LBG timber truck were at a similar level to those of a diesel combination.
  - A study on the impacts of 75-tonne LBG vehicle combinations will be completed in summer 2026.

Electricity 1

- **Current situation**
  - Finland's first pilot of an electric timber truck combination will be launched within the ACE project during 2026. In Sweden, just under twenty 60–110-tonne electric timber and wood chip trucks are already in operation, and additional combinations are expected, for example as part of the TREE research project.
  - The heaviest electric trucks are currently offered by Volvo and Scania. Trucks compatible with megawatt charging (MCS) will enter the market during 2026.
  - In Finland, there are just over ten public charging stations for heavy-duty vehicles, and more than 30 additional stations are planned. The first megawatt-level charging stations have already begun operation. (Traficom 2026 and distribution infrastructure operators)
  - A small number of Sisu hybrid trucks have also been used in Finnish timber transport.
- **Objectives**
  - According to the Alternative Transport Fuel Distribution Infrastructure Programme (Ojala et al. 2024), the objective is for the public charging infrastructure network for heavy-duty transport in Finland to meet the EU AFIR Regulation targets for 2030 (in principle, a charging station every 60 km on the TEN-T core road network and every 100 km on the comprehensive TEN-T road network). Charging needs outside the TEN-T network also need to be taken into account.
  - The KAISU report (Ministry of the Environment 2025) considers it necessary to continue public support for heavy-duty vehicle charging infrastructure.

Photo: SCA

Electricity 2

- **Development outlook**
  - In the coming years, additional pilot projects involving electric trucks will be launched within research projects in the Swedish forest sector. Electric trucks suitable for forest sector operations are likely to become more widely available on the market, and their cost competitiveness is expected to improve, for example as battery technologies develop and megawatt charging becomes more widespread.
- **Impacts**
  - Electric trucks have zero emissions during operation. In timber and wood chip transport, the life-cycle emissions of propulsion systems are 93% lower with electricity than with diesel, calculated per tonne of payload transported (Venäläinen et al. 2025).
  - According to baseline calculations in the MESI project, transporting timber with electric vehicle combinations is 7–11% more expensive, and transporting wood chips 6–8% more expensive, than with diesel combinations (Venäläinen et al. 2025). However, the cost differences are strongly influenced by factors such as assumptions related to charging implementation and electricity prices.
  - The KAISU plan (Ministry of the Environment 2025) proposes purchase subsidies for electric trucks for the period 2026–2030, and, as a separate Social Climate Fund (SCF) measure, additional purchase support targeted at micro-enterprises.

Electric and Hybrid Axles 1

- **Current situation**
  - To the best of current knowledge, trucks or trailers equipped with electric axles (e-trailers) are not yet in use in timber transport in Finland. More generally, the use of electric axles is only beginning to emerge.
  - Volvo is expected to introduce an electric truck equipped with an electric axle to the market during 2026. In Finland, trailers fitted with electric axles are offered, for example, by VAK; an electric axle has been installed in a trailer operated by Ahola Transport. Nyblom's (2023) thesis describes suppliers of hybrid axles in Europe.
- **Objectives**
  - Trailers equipped with electric axles represent one means of reducing emissions also from trailers. Under the EU CO_2 emission standards regulation, emissions from trailers must also be reduced, even though no specific emission reduction targets are set for trailers as such.

Electric and Hybrid Axles 2

- **Development outlook**
  - At present, the use of electric axles is constrained by their high cost. However, the cost competitiveness of electric and hybrid axles is expected to improve as these solutions become more widespread and continue to develop.
- **Impacts**
  - Electric axles are being studied, among others, in the University of Oulu's NO DAMAGE project, in which an electric axle has been installed on the rearmost driven axle of a truck. In Sweden, electric axles are being investigated in projects such as DHEELS and REEL.
  - In Canada, an electric axle installed on the trailer of a timber truck was found to reduce fuel consumption by 17% (FPInnovations, undated). In a simulation study by the University of Oulu (Kinnunen 2023), an electric axle reduced the fuel consumption of a loaded timber vehicle combination by 11.3%, but increased the fuel consumption of an empty combination by approximately 10%, depending on the battery. Overall fuel consumption savings of 6% were achieved. Fuel savings could be further increased by developing vehicle's control strategies.
  - When combined with an electric tractor unit, an electric-axle trailer would reduce the tractor's power demand and charging requirements, while increasing its operating range.
  - The cost impacts of electric and hybrid axles have not been assessed in this study; however, such axles significantly increase the purchase price and unladen weight of trailers (Nyblom 2023).

Hydrogen 1

- **Current situation**
  - Hydrogen-powered trucks can be either fuel-cell electric vehicles (FCEVs) or internal combustion engine vehicles. In internal combustion vehicles, it is also possible to use blends of hydrogen and diesel.
  - Fuel-cell-based trucks are offered, for example, by Scania, and trucks based on liquid hydrogen by Mercedes-Benz. Volvo aims to bring both hydrogen internal combustion and fuel-cell-based trucks to market by 2030.
  - Finland's first hydrogen truck will be introduced as part of the VISIOP project led by OSAO. In the ESCALATE project, a converted Sisu truck that operates on both batteries and a hydrogen fuel cell has been piloted.
  - Finland's first public hydrogen refuelling station for heavy-duty transport is scheduled to open in Jyväskylä in 2026, primarily serving local bus traffic, but the station will also be suitable for trucks. A few other stations are under planning, although no implementation decisions have yet been made. In the H2Go research programme led by the University of Oulu, a mobile hydrogen refuelling point for heavy-duty vehicles is being piloted.
- **Objectives**
  - Hydrogen trucks are classified as zero-emission vehicles during operation, and therefore support the EU's objectives to increase the number of zero-emission trucks.
  - Under the requirements of the AFIR Regulation, Finland should have approximately ten public hydrogen refuelling stations by 2030. An interim target of the National Distribution Alternative Fuel Infrastructure Programme is that 70% of the infrastructure required under the Regulation will be in place by the end of 2027. The programme also aims for hydrogen used in transport to be produced entirely from fossil-free sources (Ojala et al. 2024).
  - The KAISU report (Ministry of the Environment 2025) proposes continuing support for public hydrogen distribution infrastructure, introducing purchase subsidies for hydrogen trucks for the period 2026–2030, and, as a separate Social Climate Fund (SCF) measure, providing purchase support for micro-enterprises.

Hydrogen 2

- **Development outlook**
  - In the baseline forecast for transport greenhouse gas emissions (WEM, 2024), it is estimated that Finland would have just under 200 hydrogen-powered trucks by 2030 (Ojala et al. 2024). The wider uptake of hydrogen trucks is constrained, among other factors, by their high acquisition costs (Magnino et al. 2024).
  - Compared with electricity, the advantages of hydrogen include faster refuelling, lighter tanks compared with batteries, and longer driving range due to higher energy density.
  - Plans already announced by vehicle manufacturers are described in the Current situation section. Daimler Truck, Volvo and Toyota are developing fuel-cell technology jointly through their co-owned company cellcentric.
  - In Finland, hydrogen production projects have been announced in the Confederation of Finnish Industries' green investment data portal; however, some projects have been cancelled or delayed.
- **Impacts**
  - Hydrogen vehicles are zero-emission during operation. In the study by Riipinen et al. (2025), 68-tonne vehicle combinations were compared. With green hydrogen, the emission factor per kilowatt-hour consumed was 74–94% lower than for diesel, depending on the feedstock. The cost per kilometre of a hydrogen truck was 30–45% higher than that of a diesel combination.
  - In the study by Magnino et al. (2024), the total costs of battery-electric, fuel-cell hydrogen and hydrogen internal combustion engine trucks were compared in Finland. For 76-tonne combinations operating at least 500 km per day, the hydrogen internal combustion engine truck proved to be the least costly. The fuel-cell hydrogen truck was the most expensive of the three at a daily driving distance of 500 km, while the electric truck was the most expensive at a daily driving distance of 720 km.

RFNBO Fuels 1

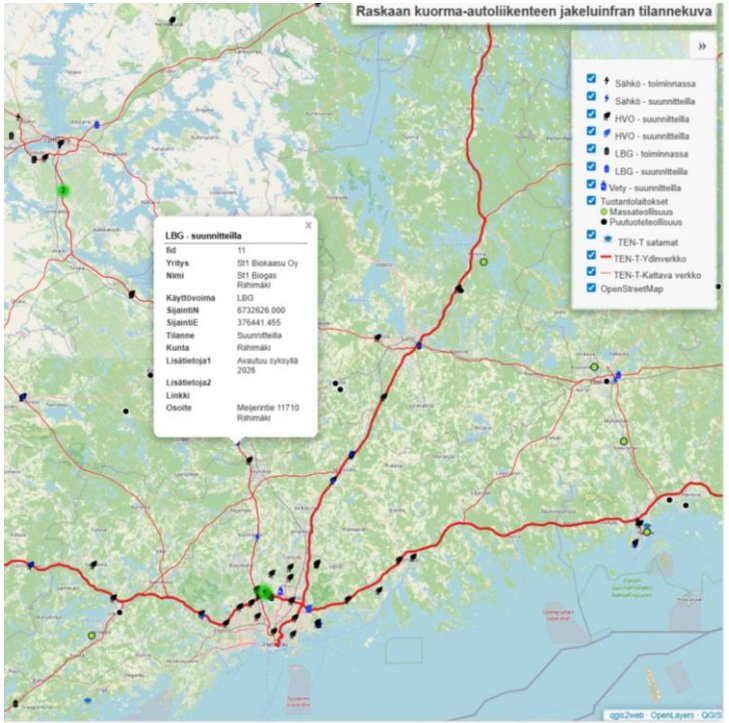
- **Current situation**
  - Renewable liquid and gaseous transport fuels of non-biological origin (RFNBO fuels) are also known as Power-to-X fuels or e-fuels. RFNBO fuels include, for example, hydrogen, e-methane, e-methanol and ammonia.
  - Under the Renewable Fuel Distribution Obligation Act, the distribution obligation for RFNBO fuels will be 1.5% from 2028 onwards and 4% from 2030 onwards.
  - Vireon Hydrogen is the first company approved as a supplier of RFNBO fuels in Finland.
- **Objectives**
  - The Government Programme (Finnish Government 2023) states that new electricity generation capacity will be built in Finland, among other purposes to replace fossil fuels with electricity-based solutions in transport.

RFNBO Fuels 2

- **Development outlook**
  - The National Alternative Fuel Distribution Infrastructure Programme (Ojala et al. 2024) considers RFNBO fuels to have the potential to replace imported fuels in the future. A key advantage of synthetic fuels is that the availability of feedstocks is not subject to the same constraints as bio-based fuels.
  - Several synthetic fuel production projects are planned in Finland; however, the project descriptions do not specify which transport modes the fuels are intended for. Finland also has good potential to use biogenic carbon dioxide generated at forest industry production facilities as a feedstock for RFNBO fuels.
- **Impacts**
  - RFNBO fuels are considered zero-emission during operation provided that the sustainability criteria of RED III are met. The life-cycle CO_2e emissions of RFNBO fuels must be at least 70% lower than those of the fossil fuel they replace (Act on the Sustainability Criteria for Certain Fuels 393/2013).
  - According to AFRY's assumption, the international price of RFNBO fuels is more than five times higher than that of fossil diesel (Sipilä and Lottonen 2024).

Situational overview of heavy-duty transport distribution infrastructure

- Metsäteho maintains a map of the distribution infrastructure for alternative propulsion systems used in heavy-duty road transport.
  - The map is updated twice a year.
  - The map and its accompanying information page are available at www.metsateho.fi/jakeluinfra.
- A future development need identified for the map is more detailed information on station size restrictions, including permitted maximum vehicle mass and dimensions.



Map: Riku Tarvainen

Mobile Energy Storage Systems (MESS)

- A pilot on MESS charging for timber transport, coordinated by Skogforsk (2025) as part of the TREE project, is currently under way.
  - The pilot is being implemented in Norrbotten and Västerbotten, regions characterised by a cold climate and long transport distances.
- The objective of MESS charging is to provide short-duration “boost charging” during long transport operations.
- The charging station operates using HVO diesel.

Photo: Sveaskog

b) High Capacity Transport (HCT)

- **Current situation**
  - In this context, HCT combinations refer to vehicle combinations exceeding 76 tonnes that operate under trial permits.
- **Objectives**
  - The permanent authorisation of HCT combinations is identified as one of the key emission reduction measures in the Forest Industry Climate Roadmap (AFRY Management Consulting 2025).
- **Development outlook**
  - The permanent approval of vehicle combinations exceeding 76 tonnes in Finland remains under consideration.
- **Impacts**
  - The cost and emission impacts of HCT vehicle combinations on timber and wood chip transport are presented in slide 7, with more detailed results provided in Annex 1.
  - In Juntunen's (2023) thesis, an 84-tonne HCT combination was identified as one of the most cost-effective emission reduction measures for road transport.

HCT timber truck (Photo: Pölliralli Oy)

HCT chip truck

c) Taxation and Emissions Trading 1

- **Comprehensive Reform of Transport Taxation and Financing (VERA)**
  - Taxes related to trucks and their propulsion systems include vehicle insurance tax, vehicle tax, and fuel tax.
    - According to an illustrative calculation by the Finnish Transport and Logistics SKAL (2025), these taxes amount to EUR 33,000 per year, corresponding to 11% of the annual turnover of a vehicle combination.
  - One of the objectives of the ongoing reform is to achieve national and EU emission reduction targets in a cost-effective manner.
  - As part of the reform, a current-state assessment has been completed (Ministry of Transport and Communications and Ministry of Finance 2026), presenting, among other things, scenarios for cost developments of different propulsion systems and identifying needs for further analysis in the second phase of the project.

Taxation and Emissions Trading 2

- **EU Emissions Trading for Road Transport (ETS2)**
  - Emissions trading for distributors of fossil fuels will enter into force from 2028 onwards.
  - Emission allowances for fossil fuels will be traded, making it difficult to estimate the impacts on diesel pump prices in advance. If, for example, the price of an emission allowance were EUR 50 per tonne of CO_2, fuel prices are estimated to increase by approximately 11–16 cents per litre (Ministry of Transport and Communications and Ministry of Finance 2026).
  - In 2024, the Orpo Government decided to introduce a professional diesel scheme when emissions trading begins. No decision has yet been made on the level or implementation mechanism of the professional diesel rebate.
- **Revision of the EU Energy Taxation Directive**
  - In 2021, the European Commission submitted a proposal to revise the Energy Taxation Directive; however, Member States have not yet reached agreement on the content of the revision.

3. Conclusions and Further Research Needs 1

- In timber transport operations where routes change frequently and operations take place largely in remote areas, diesel will remain a significant propulsion option for a long time. Emissions from diesel vehicles will be reduced through the tightening of renewable fuel distribution obligations and increasingly stringent vehicle emission standards.
- The use of LBG-fuelled vehicles in timber and wood chip transport has started to increase only in recent years, and additional vehicles are expected to be introduced in the near future. LBG trucks are already available in the large vehicle size classes typical of Finland. The cost level of LBG-fuelled transport is close to that of diesel and, at present, even lower in some cases. Investments in gas-powered vehicles are also supported by the expansion of the gas distribution network. It is therefore important to identify regions where the distribution of LBG still needs to be further developed.
- HVO diesel could be utilised in the existing diesel fleet; however, its use in timber transport remains limited, and wider uptake is constrained by its high price.
- Finland's first electric truck for timber transport is only now being introduced. In Sweden, more than 15 electric trucks are already in operation in timber and wood chip transport, and their numbers are expected to increase further within ongoing research projects. Sweden will therefore provide valuable experience and reference data. According to Metsäteho's earlier calculations, transport costs for timber and wood chips using electric trucks are higher than with diesel, but these calculations need to be updated, particularly to account for the impacts of megawatt charging.

Conclusions and Further Research Needs 2

- Hydrogen trucks in larger size classes are only now entering the market and pilot testing phase. At present, hydrogen trucks are considered significantly more expensive than other propulsion options, but with technological development their cost competitiveness may improve, especially for long transport distances and heavy loads. It is important to include hydrogen trucks in research projects for practical testing, and the first such projects have already been launched in Finland.
- Cost differences between different propulsion systems are influenced by technological development, tightening vehicle emission requirements, and the forthcoming emissions trading scheme for road transport. The ongoing reform of transport taxation and financing in Finland may also have a significant impact on the cost differentials between propulsion systems. To support transport companies considering fleet investments, the comparison bases and calculation methods for the cost and emission impacts of different solutions need to be further developed.
- High Capacity Transport (HCT) combinations exceeding 76 tonnes are one means of reducing emissions and transport costs per unit of payload. Trials of HCT combinations have been carried out in Finland since 2013, and vehicle dimensions were increased in 2019. The possible increase of vehicle masses remains under consideration.
- As the loader accounts for approximately 6–10% of the fuel consumption of a timber vehicle combination, emission reduction measures related to the loader and its operation need to be examined separately.

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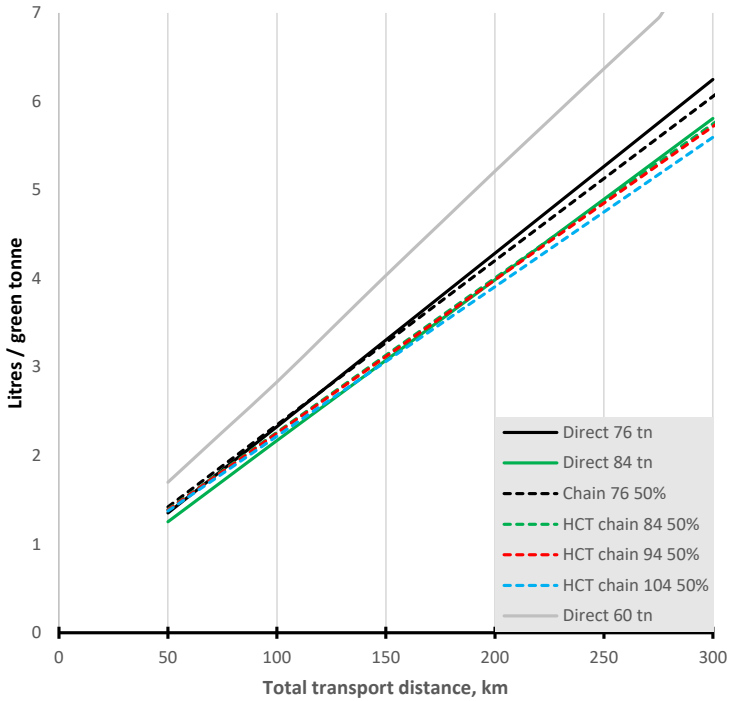
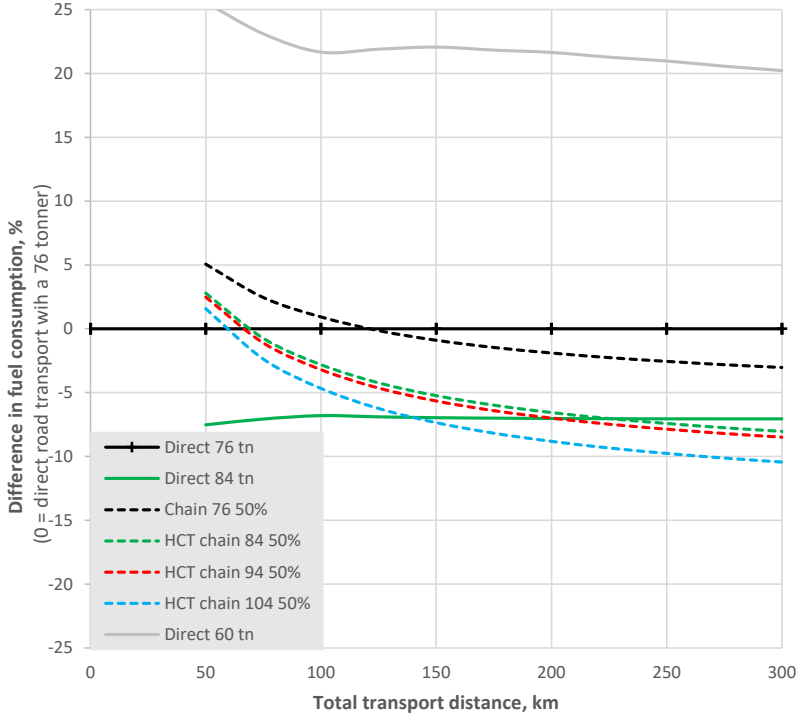
Appendix 1 Calculations for HCT Combinations

The implementation of the calculations is described more in detail in the report Venäläinen ja Poikela 2026

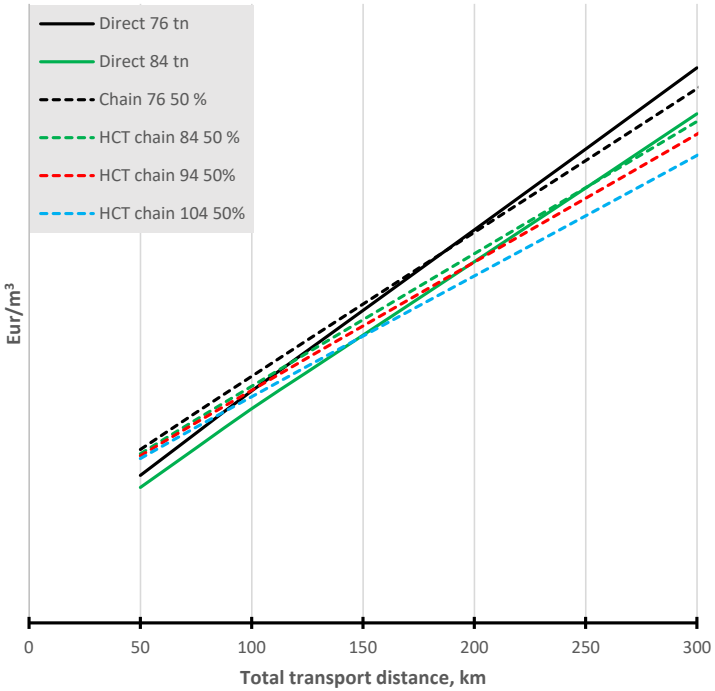
HCT Combination Fuel Consumption Comparison – Timber Trucks

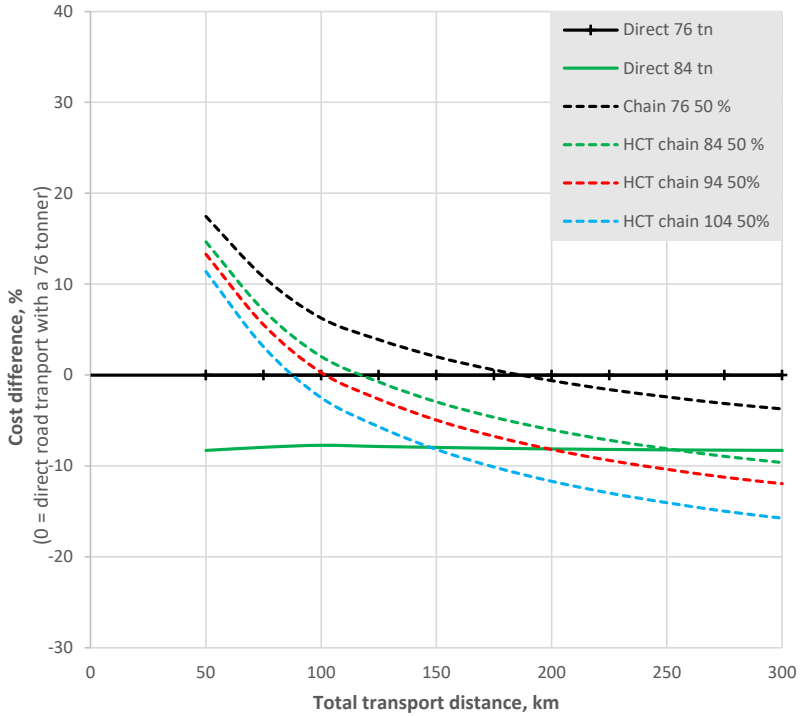




The implementation of the calculations is described more in detail in the report Venäläinen ja Poikela 2026

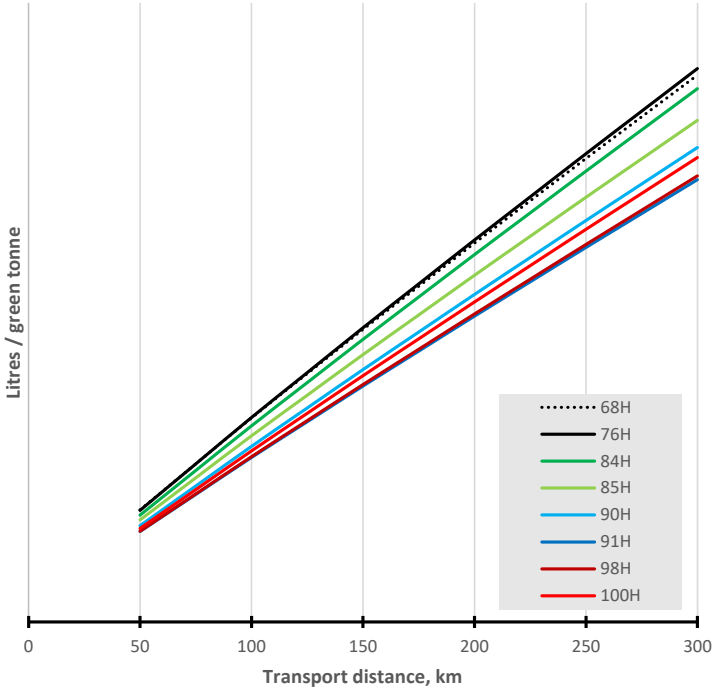
HCT Combination Cost Comparison – Timber Trucks

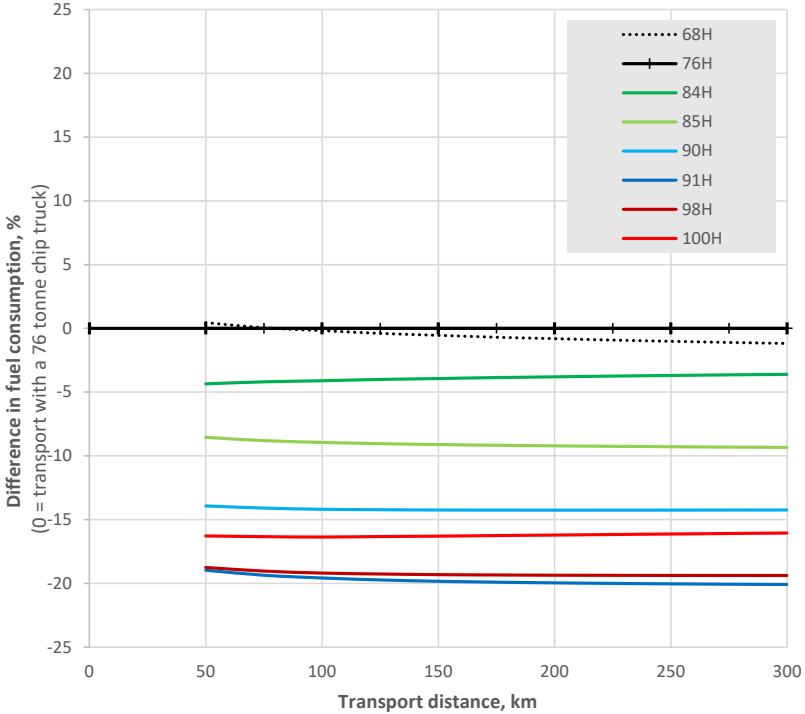




The implementation of the calculations is described more in detail in the report Venäläinen ja Poikela 2026

HCT Combination Fuel Consumption Comparison – Chip Trucks





The implementation of the calculations is described more in detail in the report Venäläinen ja Poikela 2026

HCT Combination Cost Comparison – Chip Trucks