Reducing the climate impact of transport services through practical approaches to transport procurement

Recommendations on transport procurement to reduce the climate-impact of transport services

Aim of report

This report presents recommendations for how transport buyers together with their transport providers can reduce the climate impact of transport services by including climate-related goals in their transport procurement. The recommendations have been developed based on the theoretical findings of the research project "Voluntary climate-related demands on transports in the procurement of transport services" financed by the Swedish Innovation Agency Vinnova. The recommendations enable the reduction of transport emissions without compromising service quality or cost efficiency. In developing these recommendations, the interorganizational dynamics between transport buyers, transport providers and customers – as well as the structural and market-related challenges they face – have been taken into account. Thus, the recommendations are actionable within the context of business relationships between transport buyers and their transport providers and customers.

Executive Summary

Sustainability has gained increasing attention for corporate strategies in recent years. Transport services are major sources of greenhouse gas emissions and often make up a large part of companies Scope 3 emissions. Consequently, companies buying transport services face growing pressure to reduce the climate impact of their freight transport activities.

Freight transport emissions are the results of long-term strategies, short-term tactical decisions, and everyday operational choices. Hence, the way transport services are planned and procured play a role in reducing emissions. But making real progress is not easy. It requires more than setting climate goals, it demands changes in how transport services are managed, procured, and integrated into broader supply chains. Moreover, the changes required demand interaction and collaboration among firms embedded in the business networks where the transport activities occur.

Despite growing awareness, freight transport emissions are still often seen as "*someone else's problem*", typically that of transport providers. But this approach is no longer sufficient as transport buyers are now facing rising expectations from all sides. Governments are tightening regulations on carbon reporting and fuel use, and customers, especially large retailers, manufacturers, and public sector buyers, are demanding lower-emission deliveries.

To meet these expectations, transport buyers must navigate a complex set of internal and external challenges. Internally, they need to align transport procurement practices with operational objectives and strategies, including climate goals. Additionally, because transport buyers do not operate in isolation but are embedded in a broader business network, any adaptations to their operations must reflect interaction and interdependencies with actors such as transport providers, customers, and other supply chain partners.

Taken together, these developments underscore the need for transport buyers to combine internal alignment with strengthened collaboration across the wider business network. Only by integrating climate considerations into both organizational practices and inter-organizational relationships can companies translate sustainability ambitions into concrete reductions in freight transport emissions.

Sammanfattning

Hållbarhet har fått allt större betydelse i företags strategiarbete under de senaste åren. Transporttjänster är en av de största källorna till växthusgasutsläpp och står ofta för en betydande del av företags utsläpp inom Scope 3. Därför möter företag som köper transporttjänster ett växande tryck att minska klimatpåverkan från sina godstransporter.

Utsläpp från godstransporter påverkas av både långsiktiga strategier, kortsiktiga beslut och vardagliga val i den operativa verksamheten. Hur transporttjänster planeras och upphandlas spelar därför en viktig roll för att få ner utsläppen. Men det är inte enkelt att åstadkomma verklig förändring. Det räcker inte att sätta klimatmål – det krävs förändringar i hur transporterna styrs, upphandlas och kopplas ihop med resten av leverantörskedjan. Dessutom kräver detta ett nära samarbete mellan de företag som är del av de affärsnätverk där transporterna faktiskt sker.

Trots en ökad medvetenhet ses utsläppen från godstransporter fortfarande ofta som ”någon annans problem”, vanligtvis transportörernas. Men den synen håller inte längre. Transportköpare möter i dag ökade krav från flera håll. Myndigheter skärper regler om klimatrapportering och bränsleanvändning, och kunder – särskilt stora detaljhandlare, tillverkare och offentliga aktörer – efterfrågar leveranser med lägre utsläpp.

För att leva upp till dessa förväntningar måste transportköpare hantera en rad interna och externa utmaningar. Internt behöver upphandlingen av transporter samordnas med verksamhetens mål och strategier, inklusive klimatmålen. Externt måste företag beakta att de är en del av ett större affärsnätverk där förändringar påverkar – och påverkas av – aktörer som transportörer, kunder och andra partners i leverantörskedjan.

Sammantaget visar utvecklingen att transportköpare behöver kombinera intern samordning med ett stärkt samarbete i hela affärsnätverket. Genom att integrera klimatfrågor både i den egna organisationen och i relationerna med andra aktörer kan företag omsätta sina hållbarhetsambitioner i faktiska minskningar av utsläppen från godstransporter.

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Introduction

Background

Sustainability has gained increasing attention for corporate strategies in recent years. For companies buying transport services (in this report referred to as transport buyers) there is growing pressure to reduce the climate impact of freight transport. Transport services are major sources of greenhouse gas emissions and often make up a large part of companies Scope 3 emissions, those that occur outside direct operations but still within the value chain.

The emissions resulting from freight transport are hard to control. Freight transport emissions are the results of long-term strategies, short-term tactical decisions, and everyday operational choices. Examples of factors influencing transport emissions include the choice of vehicles, which routes are chosen, what fuels are used, how often deliveries are made, and how well freight is consolidated. Hence, the way transport services are planned and procured play a role in reducing emissions.

There are clear benefits for companies to take action to reduce transport emissions. Reducing emissions can improve brand reputation, lower exposure to future carbon costs, strengthen relationships with customers who value sustainability, and may even reduce the cost of transport services. But making real progress is not easy. It requires more than setting climate goals, it demands change in how transport services are managed, procured, and integrated into broader supply chains. Moreover, the changes required demand interaction and collaboration among firms embedded in the industry network where the transport activities occur.

This report presents recommendations for how transport buyers, in collaboration with transport buyers and customers, can contribute to reducing freight transport emissions. The recommendations have taken into account how climate-related criteria can be built into transport procurement in a meaningful way that also address the demands for service quality and cost efficiency. The recommendations are based on a network perspective, recognizing that no company can decarbonize transport services alone. Success depends on collaboration across internal teams, transport providers, customers and suppliers. Thus, the recommendations are actionable from the perspective of business relationships.

The challenges

Despite growing awareness, freight transport emissions are still often seen as "*someone else's problem*", typically that of transport provider. But this approach is no longer sufficient as transport buyers are now facing rising expectations from all sides. Governments are tightening regulations on carbon reporting and fuel use. As examples, customers, especially large retailers, manufacturers, and public sector buyers, are demanding lower-emission deliveries.

To meet these expectations, transport buyers must navigate a complex set of internal and external challenges. Internally, they need to align transport procurement practices and climate goals with operational objectives and strategies. This may require changes in warehousing, performance metrics, and coordination between departments like logistics, procurement, sales, and sustainability. Leadership support and cross-functional collaboration are also essential.

Externally, the picture is similarly complex. Sustainable transport services depend on developing technologies (e.g., electric vehicles), volatile fuel prices, and broader logistics systems. Transport buyers do not operate in isolation, being embedded in the business network, their operations reflect interaction and interdependencies involving actors such as transport providers, customers, and other supply chain partners. Making meaningful changes often requires rethinking how transport services are planned and delivered across the entire network.

Today, many transport buyers include environmental criteria in tenders or contracts. But these efforts are often fragmented and reactive, driven by specific customer demands. To drive real change, transport buyers need to adopt a more active role, setting clear climate goals and

incorporating them into procurement strategies. This means moving from isolated actions to coordinated, strategic efforts that reshape how transport services are bought and managed.

About the report

This report presents the recommendations for practitioners which are based on the theoretical findings of results of one research project conducted by Chalmers Industriteknik and IVL Swedish environmental research institute during 2023 to 2025. The project entitled "Voluntary climate-related demands on transports in the procurement of transport services", was funded by Sweden's innovation agency, Vinnova.

The recommendations help transport buyers to more actively drive climate progress through procuring transport services. While many companies have sustainability goals, turning those goals into real change in transport operations remains a challenge. The recommendations relate actionable measures about how climate criteria can be integrated into procurement strategies in a way that is impactful. This practitioner-oriented report presents a practical translation of theoretical findings, drawing on three studies of intra-organizational and inter-organizational aspects of transport procurement in business relationships between transport buyers, suppliers and customers.

To validate the recommendations, a digital workshop was held on March 2025. The workshop involved key stakeholders including logistics service providers, transport providers, transport buyers, academic researchers, and industry experts. In the workshop, the practical insights from the research project's three academic journal articles were presented and discussed and the viewpoints of researchers, experts and practitioners were considered in the report.

Recommendations

This section reports recommendations drawing from the research. The section addresses transport procurement and related practices and is divided in two sub-sections, 1) a focus on transport buyers' internal operations, i.e., an intra-organizational perspective, and 2) a focus on the inter-organizational perspective involving transport buyers, providers and transport services. It is important to note, however, that realizing a successful and sustainable transformation requires addressing both perspectives simultaneously and in interaction.

An intra-organizational perspective to transport procurement practices of buyers

When it comes to transport goals within transport buyers' companies, one core issue is to reduce tensions between transport goals in which different functions (e.g., transport or sales) have different priorities when it comes to costs, service and transport emissions. Achieving substantial reductions in the environmental footprint of transport services requires a transformation in how firms internally organise, prioritise, and manage their transport-related activities. This section adopts an intra-organizational perspective and includes recommendations focused on internal processes, structures, capabilities and decision-making practices that enable more climate-aligned transport procurement and operations:

- *Redesign packaging to maximize truck utilisation*
  Optimising packaging, such as reducing void fill or improving pallet design, can significantly increase truck utilisation, reduce transport frequency, and lower emissions. It also improves delivery safety and reduces handling for customers.

- *Implement transportation management system (TMS)*
  A TMS provides real-time visibility and supports efficient planning. It helps identify the most effective routes, transport providers, and transport modes, while also highlighting inefficiencies in the distribution network.
- *Develop cross-functional teams*
  Cross-functional teams that include logistics, sales, and procurement help align priorities and reduce tensions between transport goals in terms of costs, service and emissions. These teams also support better coordination with external partners.
- *Involve top management in transport services*
  Leadership engagement is essential for resolving internal tensions and allocating resources for sustainability initiatives. Top management support signals strategic commitment and helps drive change.
- *Make the workflow specified*
  Clear workflows ensure that managers across departments understand their roles in transport planning. This improves coordination, speeds up decision-making, and supports more consistent execution of sustainability strategies.
- *Conduct emission baselining and set reduction targets*
  Establishing a clear baseline for logistics emissions allows transport buyers to identify high-impact areas and set measurable reduction targets. This process helps align freight-related decisions with the company's overall sustainability strategy and improve accountability.
- *Review transport network*
  Regularly reviewing logistics networks, such as warehouse locations, freight flows, and distribution hubs, helps minimise total transport distances and modes' carbon intensity.
- *Increase data transparency and emissions tracking*
  Deploying digital tools that track fuel consumption, trip distances, and route-level emissions supports data-driven decision-making. Enhanced visibility allows teams to pinpoint inefficiencies and monitor progress toward emission reduction goals.
- *Encourage circular economy practices in logistics*
  Integrating product return, reuse, or recycling logistics reduces total transport demand and emissions. Designing logistics systems to support reverse flows and material recovery aligns environmental and economic performance.
- *Train and engage staff on sustainable transport practices*
  Providing continuous education on eco-efficient logistics, transport planning, and sustainability benefits increases internal awareness and motivation. Staff engagement ensures that emission reduction goals are operationalized across all business levels.

An inter-organizational perspective to transport procurement

It is highlighted that, substantially, reducing the environmental footprint of transport services, requires a transformation of the way that firms in the transport network organize and collaborate. This subsection involves an inter-organizational perspective and includes recommendations addressing a variety of aspects to collaboration, organizing and business relationships.

- *Integrate sustainability criteria into transport procurement*
  Embedding environmental performance criteria in freight contracts encourages providers to adopt low-emission technologies and fuels. Transport buyers can require

carbon reporting, set minimum efficiency standards, or incentivize the use of zero-emission vehicles through contractual mechanisms that support transport providers in using economies of scale.

- *Avoid overspecification*
  Transport buyers often define transport requirements in great detail to meet customer expectations. However, this can limit transport providers' operational flexibility and leads to higher costs.
- *Develop integrated capabilities*
  Investments in IT systems and skilled personnel enable more efficient transport planning and procurement. Integrated systems with transport providers and customers can streamline communication and reduce administrative work.
- *Collaborate with other transport buyers*
  Pooling freight volumes with other transport buyers, especially for backhaul, can improve load efficiency and reduce emissions. While this may involve sensitive information-sharing, starting with small-scale initiatives can build trust and lead to broader collaboration.
- *Schedule freight deliveries off-peak in relation to customers*
  Deliveries off-peak help avoid congestion and allows transport providers to use their resources efficiently. This can reduce emissions and improve delivery reliability, especially in urban areas.
- *Encourage the use of alternative fuels*
  Longer-term contracts can make it more viable for transport providers to invest in alternative fuel technologies.
- *Collaborate on emissions reporting*
  Joint efforts to measure and report CO2 emissions improve data quality and reduce duplication. Shared standards and consistent methods are essential for reliable reporting and benchmarking.
- *Collaborate on transport planning*
  Engaging both transport providers and customers in planning routes, schedules, and volumes can improve resource efficiency and reduce emissions. This requires communication and shared planning tools.
- *Develop shared KPIs and continuous improvement plans*
  Defining common performance indicators, focused on emissions, reliability, and cost-efficiency, helps align goals and supports long-term improvement in shipper-provider relationships.
- *Explore the network*
  Transport services are embedded in a business network encompassing transport buyers, transport service providers, and their customers and partners. To develop an understanding of how sustainability of transport services could be improved, it is essential to establish a clear view of the actors involved, how collaboration takes place, and any interdependencies that could jeopardize a transformation.
- *Alignment of objectives and priorities*
  Once a common view of the key actors has been established, the objectives and priorities of these actors could be clarified. Such objectives could concern, for example, delivery schedules or route planning. To allow for joint collaboration towards more sustainable transport, conflicting objectives and priorities should be identified and jointly addressed by the concerned parties.

- *Establish and agree on targets and joint performance indicators*
  To secure a clear and continued focus on improving sustainability, the contracts for transport procurement should include clear and jointly agreed targets. The targets should be well defined, possible to measure, and should be followed-up regularly in the dialogue between involved parties.
- *Long term commitment and risk sharing*
  To allow for the transformation required, actors may have to change its processes, invest in new technology or alter the business models. Such changes could involve additional costs or taking on risks. Hence, to avoid obstacles to the necessary changes, the actors involved in the concerned supply chains should negotiate how to enable required commitments and share the risks.
- *Joint adaptation for new technologies*
  The introduction of new technologies, such as battery-electric drivelines or HCT-vehicles adapted for High-Capacity Transport, may require changes to routines previously optimized for efficiency and effectiveness based on priori conditions. Using vehicles with battery-electric drivelines may, for example, require that charging activities are planned as part of the delivery schedule. Therefore, when preparing for the introduction of new technology, concerned actors should already early in the process jointly investigate which adaptations that are necessary.

Conclusions

Reducing the climate impact of transport services is a complex challenge that requires coordinated efforts both within and between organizations. Meaningful progress cannot be achieved through isolated initiatives or by treating freight emissions as solely the responsibility of transport providers. Instead, it demands that transport buyers take on a more active and strategic role - one that integrates climate considerations into procurement, planning, and collaboration across the wider business network.

Transport buyers must align structures, processes, and decision-making practices so that sustainability objectives are embedded in daily operations. This includes improving data transparency, increasing cross-functional coordination, reviewing transport networks, and strengthening organizational capabilities that support climate-aligned choices. Without such internal alignment, sustainability ambitions risk remaining disconnected from the practical realities of transport operations.

No single actor can decarbonize freight transport alone. Transport buyers, logistics service providers, customers, and other partners in the network must jointly explore interdependencies, align objectives, and develop mechanisms that support long-term collaboration. This includes integrating environmental criteria into procurement in a way that enables innovation, avoiding overspecification that limits operational flexibility, jointly developing performance indicators, and sharing risks associated with new technologies or fuels. Collaboration that is transparent, long-term, and based on shared learning is essential for enabling real change.

Overall, by combining internal transformation with strengthened inter-organizational collaboration, companies can not only reduce emissions from freight transport but also enhance resilience, efficiency, and competitiveness in increasingly sustainability-driven markets. The transition will require commitment, experimentation, and continuous adaptation - but it also offers significant opportunities for companies prepared to lead the way toward more sustainable transport systems.