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Searching for sustainability

Balancing Economics and Environmental Objectives in Logistics

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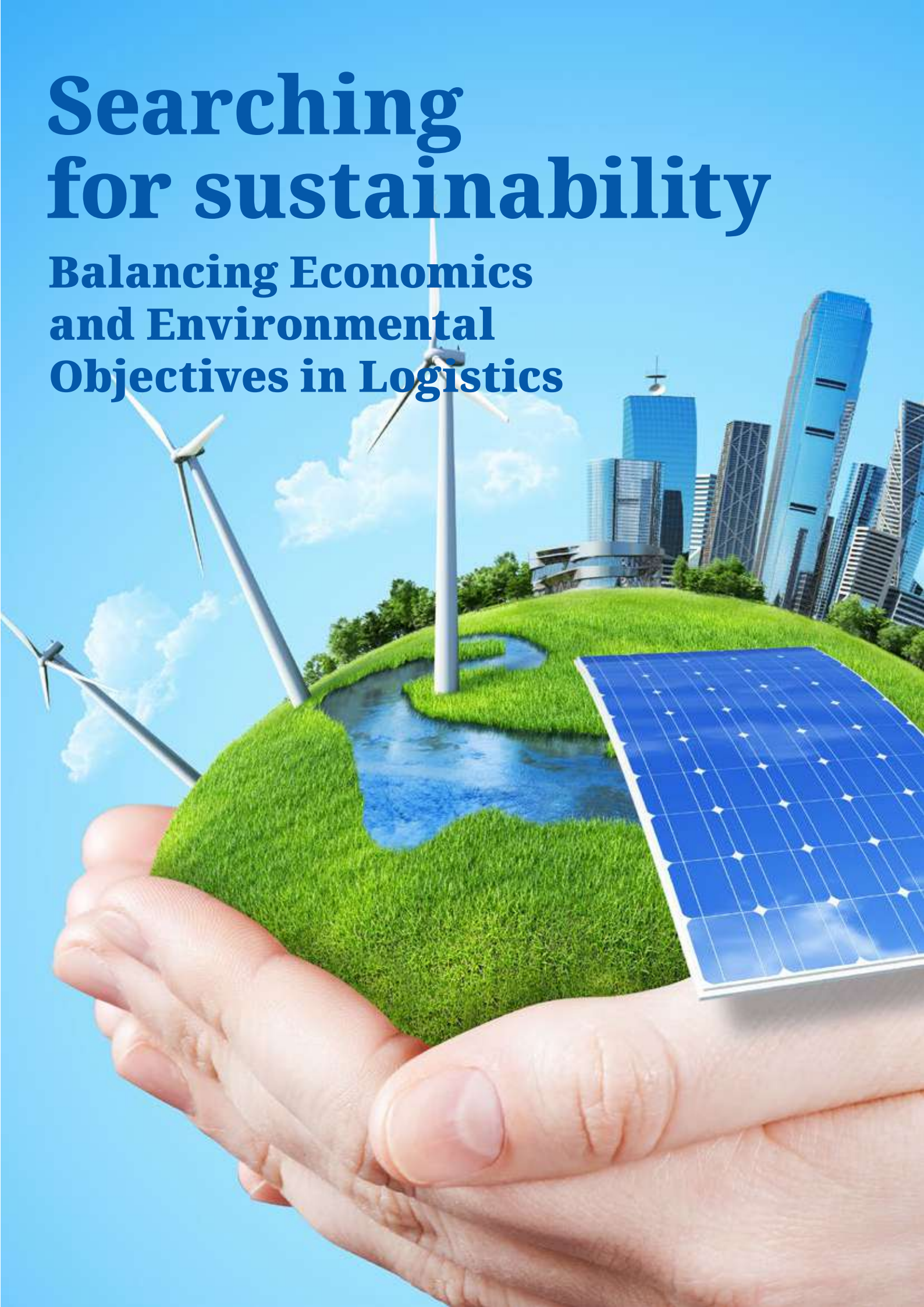


BY Prof. Alan C. McKinnon, Professor of Logistics, Kühne Logistics University

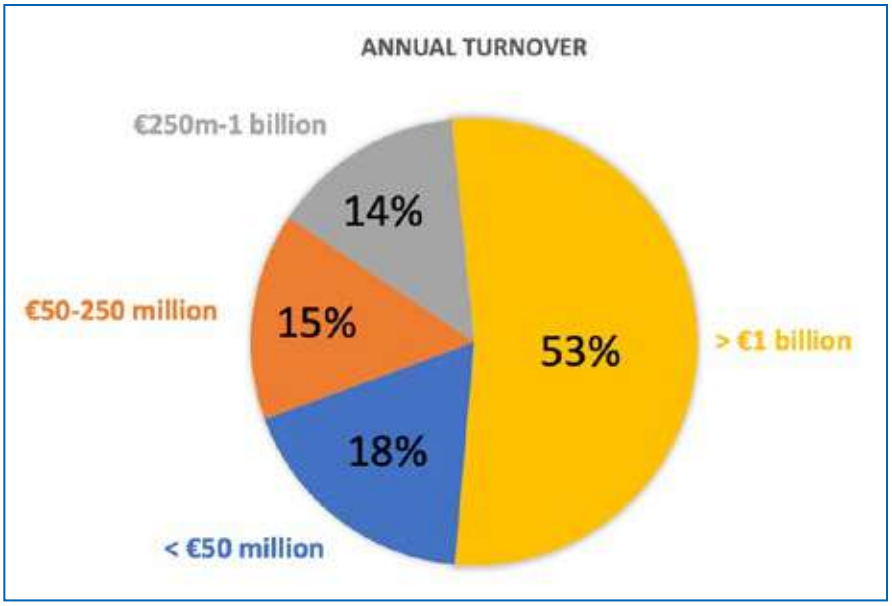
The vital role of logistics and its decarbonisation in the fight against climate change is undisputed. Yet there are still concerns that environmental improvements might impair the economic efficiency of logistics.

A new study by the Center for Sustainable Logistics and Supply Chains (CSLS) at Kühne Logistics University, in cooperation with the European Freight & Logistics Leaders' Forum, clearly shows that environmental and economic objectives are not in conflict and often well aligned. The responses that we received from a large group of senior executives confirmed that the majority of sustainability projects by leading companies also yield economic benefits.

This article is the start of a short series that will be explaining why the time for logistics to become sustainable is right now. Some logistics managers still perceive climate change as a longer term problem that can be left to future generations to deal with. On the contrary, the longer we leave it the harder it will become to get logistics onto a path to zero emissions, as required by an increasing number of governments around the world.

IT IS TIME TO ACT

2020 has been a pivotal year in many respects. The coronavirus crisis has been particularly challenging for the logistics industry, forcing it to change and adapt at a rapid pace. Pressure has also been mounting to meet longer term climate change goals. Logistical activities account for roughly 10-11% of global CO2 emissions and—by common consent—will be difficult to reduce, due to their very heavy dependence on fossil fuels and high forecast growth rate. In addition, arguments for environmentally-friendly policies are sometimes ignored or sidelined because of fears they will profitability.



This is now changing. In recent years, there has been a step-change in the commitment of governments and businesses to tackle climate change. Over 110 countries have committed to being net-zero carbon by 2050 or earlier, while the EU Green Deal aspires to make Europe the first carbon-neutral continent by 2050. Companies once cautious about suffering a 'first mover disadvantage' in being at the leading edge of environmental action are now joining a broadly-based corporate effort to decarbonise the economy. With over 1100 large companies now aiming to be net-zero carbon by 2050 at the latest, the business world is seriously engaging with the global effort to drive down greenhouse gas (GHG) emissions.

This made it a good time to assess the extent to which logistics and supply chain managers are contributing to this effort.

To do so, we conducted an online survey which secured the participation of over 90 senior executives involved in the management of European logistics systems, over half them working for businesses with turnovers in excess of €1 billion. We were also grateful for a series of case studies from

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eight companies including Kuehne + Nagel, P&G, and Tata Steel.

Our report is available online at https://www.europeanfreight-leaders.eu/bfb-temperature/

DISTINGUISHING THE SUSTAINABLE LOGISTICS LEADERS

Using the survey data, we identified a group of leading companies based on two criteria: their progress in establishing a sustainable logistics strategy and the setting of absolute carbon reduction targets for their logistical activities.

These 'leaders' represented just under 30% of the total sample, and might currently be regarded as 'best practice' in sustainable logistics. Among those companies considered to be 'leaders', momentum to decarbonise is strongly building, though more at a corporate level than within the logistics function. At the other end of the scale, around 15% of businesses do not currently measure their logistics emissions and a third have yet to set targets for reducing them.

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CORONAVIRUS HAVING LITTLE OR NO IMPACT ON DECARBONISATION PLANS

Almost 70% of the respondents, and 87% of those in the 'leading' category, indicated that the recovery of their businesses from the pandemic would either have no impact or even a positive effect on their logistics decarbonisation efforts. Indeed measures that companies are now taking to increase the resilience of their supply chains may also improve their environmental sustainability.

STILL 'LOW HANGING FRUIT' TO BE HARVESTED

95% of the respondents said that at least some of their carbon-reducing measures saved money while 40% indicated that half or more of these measures also cut costs. Among the group of leading companies the latter proportion rose to over 60%. Our survey therefore provides empirical evidence that in the management of logistics operations environmental and commercial objectives are quite closely aligned, giving companies a substantial amount of 'low hanging fruit' to exploit.

MOST COST-EFFECTIVE WAYS OF DECARBONIZING LOGISTICS

So what do the company executives consider to be the low hanging fruit? In our survey, the three most cost-effective ways of cutting carbon were: shifting freight to cleaner transport modes, improving vehicle loading and switching to alternative energy. The first two measures accounted for approximately 53% of all suggestions by participants. They have the advantage that they can be relatively quick and cheap to implement.

Rather surprisingly, increasing the energy efficiency of logistics operations was ranked rather low despite the fact that measures such as driver training and the aerodynamic profiling of vehicles are proven to have low carbon mitigation costs and short payback periods.

The decarbonisation of warehousing was ranked 4th place by the participants. It typically accounts for only around 10-12% of total logistics emissions though it should be easier to decarbonize than many freight transport operations. It will directly benefit from the declining carbon intensity of electricity and in many cases offer good potential for on-site generation of renewable electricity using solar panels and/or windpower. This offers the prospect of carbon-negative warehousing offsetting emissions from companies' freight transport operations and thereby helping logistics systems as a whole to reach net zero.

DIGITALIZATION AND COLLABORATION— POTENTIAL GAME CHANGERS

Three-quarters of the respondents, and 87% of those in the leading group, reckoned that digitalisation will have a transforma-

tional impact on logistics over the next five years—enhancing decarbonisation efforts. Of the broad range of IT developments subsumed under the general heading of digitalization, those most likely to promote decarbonisation were considered to be: improvements to supply chain visibility, advances in transport management systems, innovations in vehicle routeing and the use of online logistics platforms. 3D printing, on the other hand, was expected to have only a minor impact over the next five years.

There is a widely-held view that for logistics to reach net-zero emissions companies will have to be much more willing to share their assets. The survey revealed that there already a significant level of supply chain collaboration, though relatively little of it between competing business, what we call 'horizontal collaboration'. Respondents identified a range of barriers to further collaboration including competition, management culture, lack of visibility and concerns about data privacy and possibly breaching competition law.

ENCOURAGING, BUT CAN DO BETTER

Around a third of the companies appear to be making good progress in developing and implementing sustainable logistics strategies and setting a good example to others. The providers of logistics services are better represented in this best-practice group than the shippers using these services. While shippers may feel that they can off-load responsibility for decarbonisation when they outsource their logistics, they should not under-estimate the importance of freight procurement processes in incentivizing carriers to cut emissions. Overall, between a quarter and a third of businesses surveyed are at an early stage in logistics decarbonisation, some of them neither measuring their logistics emissions nor setting targets for cutting them. They risk losing business as environmental performance becomes a more important competitive differentiator in logistics markets.

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Professor Alan McKinnon has specialised in freight transport and logistics since becoming an academic in 1979. A graduate of the universities of Aberdeen, British Columbia and London he has, since 2012, been Professor of Logistics at Kühne Logistics University in Hamburg. Over the past four decades, Prof. McKinnon has actively promoted the development of logistics in academic, industrial and government circles. He has conducted around 60 studies on a broad spectrum of logistics topics and published extensively in the logistics and transport literature. He has also been an adviser to several governments, parliamentary committees and international organisations.