

Towards Net Zero in the freight transport sector

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into achievable actions



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Supporting your journey to Net Zero

Back in 2019, the UK became the first major economy to legislate and commit to Net Zero carbon emissions by 2050. That timeline has accelerated, with the UK Government announcing an even more ambitious climate change target in April 2021 – of achieving a 78% cut in emissions by 2035. It makes the need for action even more pressing.

This transition to Net Zero will require transformational change across many sectors, and will require action from businesses of all sizes. There is no one-size fits all approach to Net Zero, and different businesses in different industries will face distinct challenges and opportunities.

At HSBC we work with our customers to help them break down their sustainability goals into achievable actions, that big or small, can have a massive impact on their business. Our partnership with [UCL's Institute for Sustainable Resources](#) is designed to explore sector decarbonisation pathways, helping our customers by providing the insights and practical guidance they need to embark on and pursue their Net Zero journeys.

That partnership has culminated in '[Towards Net Zero in freight transport: key information, perspectives and practical guidance](#)', a report based on information from scientific literature, policy and science policy, alongside interviews with businesses from the sector. It proposes what needs to be done for the freight transport industry to play its part in achieving Net Zero by 2050 and calls on wider government and institutional support to help it achieve this goal. With increasing pressure to act now, it is a timely reminder of the challenges and opportunities we face on the journey to Net Zero.

Helping our clients unlock the path to Net Zero offers them a significant commercial opportunity. And it's not just transport businesses that are changing, we're changing too. You can find out more about our climate strategy [here](#).

Understanding the benefits and opportunities that Net Zero offers and familiarising ourselves with the challenges it will inevitably bring is a key step on the transition pathway. By making this guide and the broader report available, we want to help our clients turn their sustainability ambitions into an achievable transition that makes business sense.



Rob King
Head of Sustainable Finance
HSBC UK



A challenging but vital transition

Achieving Net Zero for the freight transport sector will not be straightforward, as the report from UCL points out, but it is absolutely vital if we are to reduce UK CO₂ emissions. With demand for freight transport likely to grow, decarbonisation is the only way the sector can meet the targets set out by the government – to achieve Net Zero carbon emissions by 2050, with cars and LCVs in scope by 2035 and HGVs by 2040.

And businesses are already making progress, adopting operational and vehicle improvements that can reduce emissions. The big challenge, of course, and the biggest opportunity for potential reduction is through a change in the fuel powering transport. It is here that we see the greatest diversity in progress to achieving Net Zero. Electric cars, for example, are already very much a part of transportation in 2022, and whilst LCVs are not as far along the curve, we're seeing new challengers competing with existing OEMs to broaden the product base and increase range to meet customer needs. However, whilst the report clearly outlines some of the technology that might work in the HGV space, there is still not a clear solution. With both Marine and Aero too, much remains to be determined.

If you're an operator, that makes the journey to Net Zero very challenging. If you're a manufacturer, it presents opportunities to develop and build solutions to these challenges. What the report highlights, is that operators require clarity on the best way to get there in order to deal with these challenges and grasp the opportunities.

What we see through the UCL report is that businesses are keen to move forward. They can see the potential efficiency gains and reputational benefits that Net Zero offers, but they are constrained by the lack of commercially available, and therefore, viable, options and uncertainty around the solution that is likely to offer the greatest longevity and return on investment.

We're already starting to see that investment in innovation across technology and manufacturing emerging, but investment in the infrastructure necessary to support businesses as they begin to decarbonise is also urgently required. The report calls for greater collaboration across industry, academia, government, and the finance sector to support the push needed to clarify policy and meet the targets for decarbonisation.

As an equipment finance provider, we're all too aware of the challenges that investment presents – from backing the right technology to creating a robust network to fulfil customer demand. That's why we're working with businesses and industry bodies to finance sustainable solutions.

Our role is to help and support our customers by not only funding the right investments, but by also providing insight into the challenges and opportunities that Net Zero presents. It's why partnering with UCL on reports like this is so valuable – because, like everyone else, we haven't got all the answers to the questions surrounding the decarbonisation of the freight transport

sector. What we can do, however, is remain open-minded about existing and new solutions, listen to our customers and those supplying the sector, collaborate with industry and sustainability experts, and share what we learn.

Despite the uncertainty and the issues, pursuing Net Zero is essential. By shining a light on the challenges facing freight transport on its path to Net Zero, and on the key technologies available now or in the future, we can help businesses turn their sustainability ambitions into an achievable transition.



Charles Garfit,
Director Operating Leasing
HSBC UK

Net Zero and the freight transport sector

The transport sector is key to the functioning of a modern economy, facilitating the movement of goods and services domestically and internationally and a significant contributor to both employment and GDP. In the UK, for example, the transport sector employed 1.7m people in 2021¹. Globally, it is responsible for the direct employment of around 78m people and accounts for about 5% of gross world product².

The environmental impact of the transport sector

UK perspective

Transport also has a significant impact on the environment. In the UK, transport is the largest contributor to domestic greenhouse gas (GHG) emissions. In 2019, it accounted for 27%, and while other sectors have seen their share reduce in recent years, carbon emissions from transport have remained largely flat between 2009 and 2019, only recording a steep decline as a result of the pandemic (Figure 1).

As Figure 1 suggests, surface transport is one of the largest emitters, figure 2 helps to split this down further, showing that HGVs and LCVs make up the largest portion of freight caused emissions 16% and 15% respectively.

In terms of vehicle numbers on the road, HGVs represent only a small proportion of freight transport, but due to their large load capability and relatively high mileages associated with long haul freight transport, their contribution per vehicle is significantly higher than LCVs. This suggests that the quicker gains in reduction lie within decarbonising HGVs as a priority.

With demand expected to increase in the coming years if we continue along a BAU trajectory and even in some carbon reduction scenarios, the decarbonisation of freight is set to be a UK Net Zero priority.¹

Figure 1 UK emissions by sector*

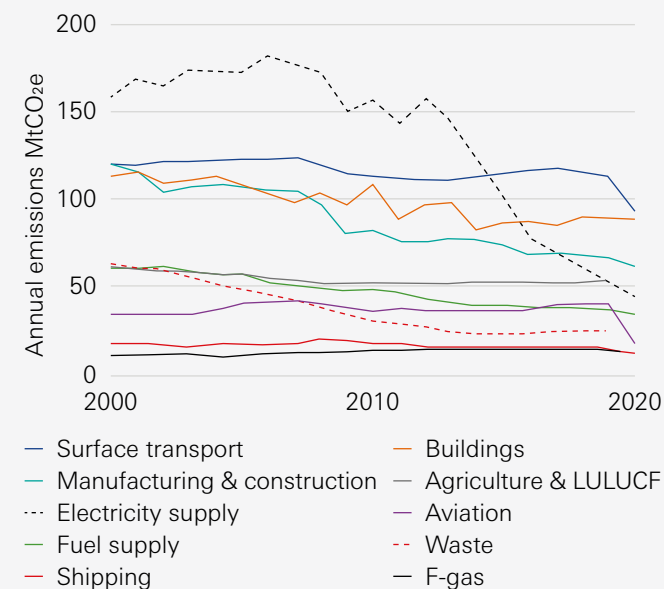
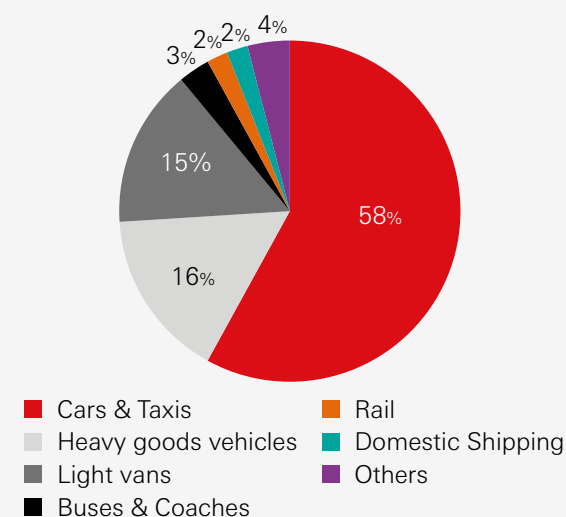


Figure 2 GHG emissions by transport mode

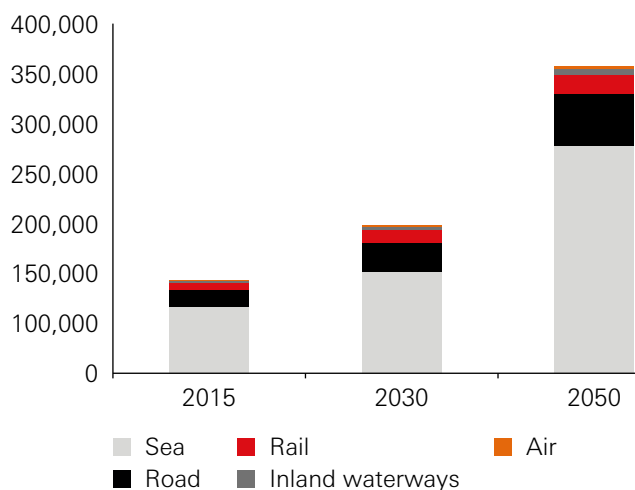


*Source: BEIS (2021) 2020 UK Greenhouse Gas Emissions. Provisional figures; Notes: LULUCF = Land use, land use change and forestry. Estimates of emissions for sectors with large proportions of non-CO₂ emissions are not shown on the second chart. Final estimates of 2020 emissions in these sectors will be published in early 2022. The sectoral emissions for aviation and shipping include the UK's share of international aviation and shipping emissions and are CCC estimates.

The global impact

Globally, freight transport is the largest consumer of petroleum-derived fuels⁴. It contributes to around 15% of global GHG emissions, a figure that increased by 2.5% between 2010 and 2015⁵. Looking ahead, global freight demand is expected to triple between 2015 and 2030, driven by economic development and growth in international trade.

Figure 3 Projected global freight transport demand by mode. Current demand pathway, billion tonne-kilometres



Change is needed

Growing demand, the diversity of the sector, and the fact that it transcends national boundaries are just some of the challenges on the path to Net Zero and clearly there is not a one-size fits all solution to decarbonisation. However, with international agencies focused on averting the climate crisis, the terms of the Paris Agreement clearly established, and the UK government committed to achieving Net Zero across all major sectors (transport included) by 2050, the sector must respond.



Decarbonisation plans and the road to Net Zero

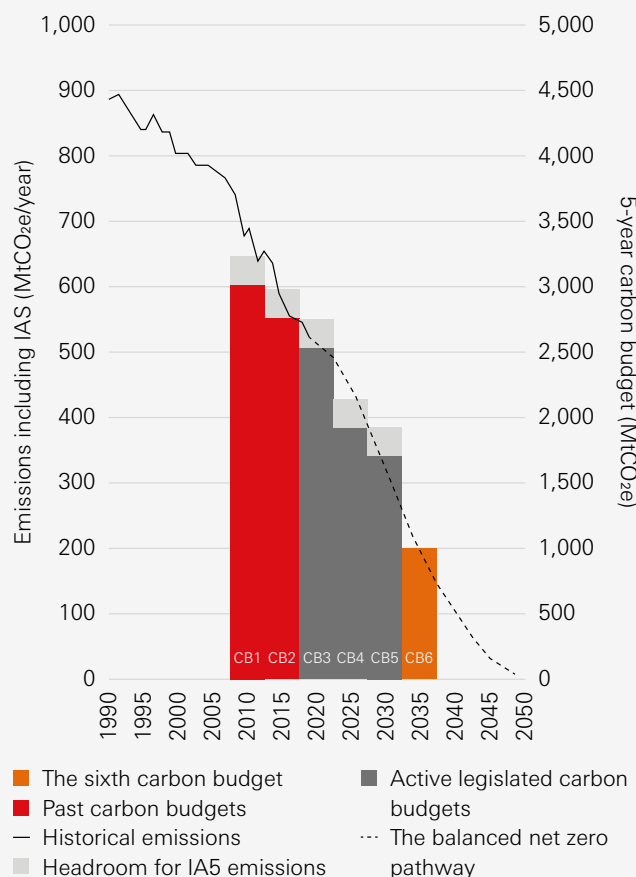
Paris Agreement – the Paris Agreement of 2015 set goals to limit global warming to well below 2 degrees Celsius, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. International shipping and aviation emissions are not part of current nationally determined contribution (NDC) accounting or included in the Paris Agreement. Instead, they are dealt with in the context of international specialised organisations (UN agencies): the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO).

UK specific

Climate Change Act 2008 (2050 Target Amendment) Order 2019 – required that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline. It requires the UK to bring all greenhouse gas emissions to Net Zero by 2050.

The Climate Change Act also provides a system of carbon budgeting to help the UK meet its targets through a series of five-year carbon budgets. The Climate Change Committee (CCC) provides regular monitoring of progress on emission reduction and whether the UK is on track to achieve its carbon budgets and targets. As we can see from figure 4, the first and second carbon budgets were met and the UK is on track to meet the third (2018–22),

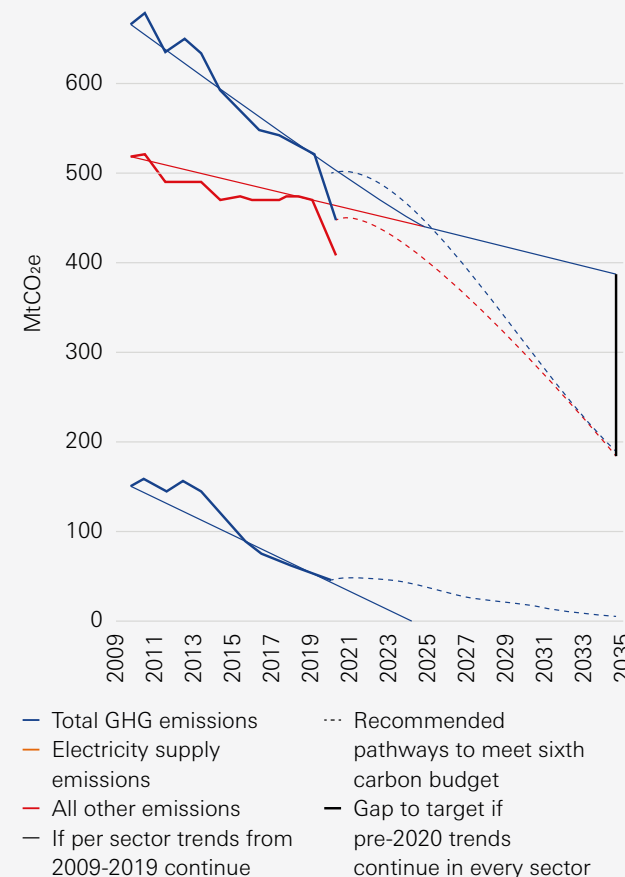
Figure 4 The six carbon budgets so far legislated



Source: BEIS (2021) provisional UK greenhouse gas emissions national statistics 2019: CCC analysis.

Notes: Emissions shown include emissions from international aviation and shipping (IAS) and on an ARS basis, including peatlands. Adjustments for IAS emissions to carbon budgets 1-3 based on historical IAS emissions data; adjustments to carbon budgets 4-5 based on IAS emissions under the balanced Net Zero pathway.

Figure 5 Required emission reduction to meet the sixth carbon budget



Source: BEIS (2021) 2020 UK Greenhouse Gas Emissions. Provisional figures: CCC analysis.

Notes: Emissions in this chart are adjusted for future increases to the Global Warming Potentials (GWPs) of non-CO₂ gases, and therefore do not match the total published in the latest greenhouse gas inventory. The sixth carbon budget target was recommended on this basis.

but a substantial acceleration in emissions reductions will be required if the UK is to meet the targets of the fourth, fifth and particularly the sixth carbon budget (Figure 5 - previous page). The sixth carbon budget is the first to be aligned to the new Net Zero strategy, and was adopted into law in April 2021. It will, for the first time, incorporate the UK's share of international aviation and shipping emissions.

UK Transport Decarbonisation Plan – published by the Department for Transport in July 2021, it confirms the phase out dates for new non-zero emission LCVs and HGVs as 2035 and 2045 respectively. For the rail sector, the ambition is to remove all diesel-only trains from the network by 2040, in parallel setting a rail freight growth target. For the maritime sector, indicative targets from 2030 will be introduced and consultation on the potential for a planned phase-out date for the sale of new non-zero emission domestic vessels will be conducted. For aviation, the Plan includes a Net Zero target for domestic aviation of 2040, and in the interim consultations to introduce a UK mandate for sustainable aviation fuels will begin.

Road transport

The UK government has produced a number of strategic documents concerning the freight transport sector. [Road to Zero](#) states that all new cars and vans (including vans for freight transport and delivery) should be effectively zero emission by 2035. Between 2030 and 2035, new cars and vans can be sold if they have the capability to drive a significant distance with zero emissions (for example, plug-in hybrids or full hybrids).

In September 2017, the UK amended its Renewable Transport Fuel Obligation for the next 15 years, to align it with the commitments published in the Clean Growth Strategy. Updated targets were published in 2021 and call for an increase in the use of renewable fuels in road transport from 11.2% in 2021 to at least 14.1% by 2032⁶.

For HGVs, the government has published 'Decarbonising Transport Setting the Challenge', setting out plans to:

- ◆ introduce new regulation of Heavy-Duty Vehicle (HGV) CO₂ emission standards
- ◆ set binding CO₂ emission reduction targets for Heavy-Duty Vehicles manufacturers of 15% by 2025 and 30% by 2030 (based on 2019 emission levels)
- ◆ launch a joint research project with Highways England to identify and assess zero-emission technologies suitable for HGV traffic on the UK road network, and
- ◆ undertake further emissions testing to inform decisions on future government policy and support for natural gas as a potential near-term, lower-emission fuel for HGVs.



Aviation

Under the terms of the Paris Agreement, emissions from domestic flights are accounted within each NDC. Responsibility for reducing emissions from international flights, which contribute around 65% of the aviation industry's CO₂ emissions, and 1.3% of global CO₂ emissions, has been delegated to the International Civil Aviation Organization (ICAO).

CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) – developed and adopted in 2016 by 192 countries within ICAO, and launched in January 2021, CORSIA aims to ensure any rise in international aviation emissions above 2020 levels is offset elsewhere. Airlines will have to buy emissions reduction offsets from other sectors to compensate for any increase in their own emissions. Alternatively, they can use lower carbon “CORSIA eligible” fuels.

In the UK, the **Jet Zero Council** was launched in June 2020. It is a partnership between industry and government to deliver new technologies and innovative ways to cut aviation emissions. Two delivery groups have been created: the ‘Sustainable Aviation Fuels’ and the ‘Zero Emission Flight’ delivery groups, to accelerate the delivery of sustainable aviation fuels and develop zero-emission aviation.

Shipping

Under the IMO Assembly, countries have reached agreements on improving the fuel efficiency of ships, mainly through ship design and efficiency standards, adopting a number of measures in 2018 as part of their initial strategy:

EEDI (Energy Efficiency Design Index) – by 2025, all new ships will be 30% more energy efficient than those built in 2014; it is mandatory for new ships.

SEEMP (Ship Energy Efficiency Management Plan) – stipulates an operational measure that establishes a mechanism to improve the energy efficiency of a ship in a cost-effective manner and control GHG emissions from the already existing shipping fleet.

In the UK, the **Clean Maritime Plan** was launched in mid-2019. It contains a number of commitments, including: a call for evidence on non-tax incentives to support decarbonisation; a consultation on how the Renewable Transport Fuel Obligation can be used in the maritime sector; a study to identify and support UK zero-emission shipping clusters; and support of clean maritime innovation through funding and competitions. The goal is to develop a zero-emissions maritime sector in the UK.



The challenges and benefits of transitioning to Net Zero

Challenges

Cost – technological developments continue to improve fuel efficiency, presenting clear benefits for some sub-sectors. However, the cost of this technology presents challenges. In the LCV market, for example, low or zero-carbon LCVs are currently significantly more expensive than their ICE equivalents.

Availability – some sub-sectors within the transport industry face a lack of commercially-available decarbonisation technologies or low-carbon operational practices, for example, in aviation or HGVs. The report also raises concern about the ability of manufacturers to supply low carbon vehicles at the scale required to meet Net Zero targets.

Growing demand – while uncertainty about the macroeconomy remains a potential drag on global trade volumes, the overall trajectory, especially as developing countries evolve, is upwards. At a local level, the rise

“The challenge for many industries is their airlines. Frankly, in that regard, the technologies to decarbonise the airline on an SBTi route map, they just don't exist. It's not a lack of willingness, they're just not there.”

UPS

of ecommerce is also increasing demand for freight transport. Transport will also be required to support infrastructure development to enable the path to Net Zero and to transport new fuel types. This increased demand will potentially make it more challenging to meet the sector and overall targets defined by the government. For example, although the uptake of electric vans is seeing the road freight sector starting to make progress towards lower-emission power, increasing demand meant that by 2017 the road freight sector had only achieved a 1% reduction in emissions from 1990 levels.

Uncertainty – there is no clear practical pathway for the decarbonisation of the sector and technological solutions are fragmented and, in many cases, still under development. Holistic solutions and a joined-up approach guided by overarching policy decisions could help businesses move forward and invest with confidence.

Infrastructure – investment and action to create the required infrastructure is necessary to enable businesses to pursue low or zero carbon strategies. For example, to enable the switch to electricity required to decarbonise, vast improvements in transmission grid availability and investment in renewables to provide enough green energy, is required.

Regulation – regulatory requirements are likely to increase and tighten as we move closer to 2050 targets, so businesses need to closely monitor those relating to their activities.

“If the government really wants to reduce total kms travelled and therefore, emissions from transport, it's got to be tackled at an industry level rather than an individual company level.”

Suttons

“We did a rough calculation that for a typical distribution centre where you might have 100 heavy trucks, and if you're going to charge them all overnight, you would need 12 MW. That just isn't going to happen. I think Heathrow for example has got a 12 MW supply. No one is going to buy the trucks until the infrastructure is there.”

John Lewis Partnership

“There is a role for restrictions and regulations, but where they're necessary they need to be done in a joined up way with long enough lead times to allow business to change its model and get the necessary investments in place, and ideally as much harmonisation as possible.”

UPS

Benefits

Competition and stakeholder attitudes – increasing interest within the supply chain for low-carbon services and data around carbon footprints will be mirrored by investor targets as sustainability measures become closely linked to funding in the years ahead. Possible competitive advantage for early adopters needs to be balanced against the uncertainty of technologies and upfront costs.

Health – explicit links between pollution and wellbeing as well as premature death have been made, creating clear advantages for those businesses acting to reduce pollution.

Economic growth – supporting the green economy has demonstrable benefits in terms of innovation, skills development and job creation. Anticipated increased demand for freight transport could potentially boost profitability and support investment in new low or zero-carbon technology.

Boosting innovation and collaboration – in order to meet the targets, businesses will need to work together and with new partners across local authorities, energy suppliers and technology hubs, driving innovation and creating employment and skills.

Operational efficiency – lower maintenance requirements and less downtime associated, for example, with low carbon vehicles, can help drive operational efficiencies. Models based on maximising loads and reducing unnecessary journeys can also help streamline operations.

“ If the whole fleet is plugged in simultaneously, we rapidly exceed the capacity of the power supply infrastructure into the building. We formed a consortium of organisations and we got some government support from Innovate UK and we developed what we believe was the world’s first combined smart grid and energy storage solution at a fleet scale. And it had the effect of trebling the number of EVs that we could recharge in our Central London building without any further infrastructure upgrades.”

UPS

“ What we are doing as a business is strategically looking at new markets. So what we're trying to do is identify those products that are going to feed the new technologies that are probably going to replace some of the products that we currently service.”

Suttons



Solutions to support your transition to Net Zero

The research conducted by UCL shows that the transport sector is keen to contribute to achieving Net Zero. In many cases, uncertainty around the best approach to take, or the best solution to adopt, is a barrier. And it is true that there are a number of ways to mitigate the impact the sector has on emissions – from reducing journeys, to the use of low carbon fuels, engine and performance technologies.

Reducing journeys and improving vehicles and operations can be cost-effective and deliver significant co-benefits. However, with surface transport demand in the UK forecast to increase by 10-20% from today's level by 2050, zero emissions in the UK freight sector can only be achieved by switching to decarbonised fuels in the transport sector (see Figure 6).

01 Fuel

Low-carbon fuels – for some sectors, low-carbon fuels are already available, although in some cases, for example electricity, lack of infrastructure and upstream considerations around how the energy is generated can be a potential risk. In addition, the composition of some fuel types makes them unsuitable, for example, the density of ethanol is lower than that of gasoline, creating issues for

the aviation sector and the fuel specifications they need to meet.

New fuel – development of bio- or synthetic fuels continues and may create new opportunities for future energy use. Increased production and distribution of hydrogen as well as the development of vehicle adaptations may make this a viable technology for extending range.

Transition fuel options – LNG is already successfully used as fuel in some HGVs and ships and can be adopted with little operational change required. However, with analysis showing that emission reductions are less than originally thought, LNG is now considered more as a bridge before the introduction of low-carbon fuels such as biomethane from biomass or waste, rather than an end solution.

Similarly, biofuels can contribute to reducing carbon emissions in comparison to diesel, but have lifecycle emission and scalability issues, which make them more suitable as a bridge while other technologies develop. In the same way, synthetic fuels may be easily used with minimal adaptation, but are not considered viable for HGVs and trains due to energy intensive production and environmental impact.

“We are keen to consider hydrogen, as hydrogen is a green option and solves the range problem that we will experience with batteries. The current downside is the cost – at the moment the trucks are expensive and so are the electrolysis machines required to generate the hydrogen; but these will come down in price as competition grows.”

Wincanton

“My view is that for commercial vehicles hydrogen's probably going to be the short to medium term solution – and longer term, maybe electric technology with exchangeable batteries or faster charging.”

Suttons

Figure 6 Selected potential fuel alternatives for the transport sector

Fuel	Advantages	Disadvantages
Biodiesel	<ul style="list-style-type: none"> Domestically produced Can be blended in most diesel engines Reduced emissions of some criteria pollutants Biodegradable, non-toxic 	<ul style="list-style-type: none"> Lower energy content than diesel More expensive B100 not suitable in low temperatures Potential engine issues if not used properly
Renewable Diesel	<ul style="list-style-type: none"> Drop -in fuel for all diesel vehicles at all blends levels up to 100% Can be domestically produced from renewable resources Reduced emissions 	<ul style="list-style-type: none"> Availability Potential land use impact, although currently most feed-stocks are waste products such as cooking oil or beef tallow
Ethanol	<ul style="list-style-type: none"> Domestically produced from renewable resources Fuel cost comparable to gasoline Lower emissions of some air pollutants 	<ul style="list-style-type: none"> Flex-fuel vehicle required for higher blends above 15% for 2001 model year or later Lower energy content Land use impact, over 90% of ethanol produced from corn
Natural Gas	<ul style="list-style-type: none"> Domestically produced Relatively cheap fuel Fewer emissions of some criteria pollutants 	<ul style="list-style-type: none"> Non-renewable fuel Potentially higher greenhouse gas emissions from leaked methane
Propane	<ul style="list-style-type: none"> Domestically produced Reduced emissions of some criteria pollutants 	<ul style="list-style-type: none"> Non-renewable fuel Few commercially available vehicles
Electricity	<ul style="list-style-type: none"> Fuel can be produced everywhere The most energy efficient powertrain option available Zero tailpipe emissions Typically lowest fuel cost/mile 	<ul style="list-style-type: none"> Limited driving range Battery charge time
Hydrogen	<ul style="list-style-type: none"> Can be produced with renewable resources Zero tailpipe emissions 	<ul style="list-style-type: none"> Fuel cost Lack of fuel availability Vehicle cost

02 Efficiency and performance improvements – better design of vehicles, changes to loading specifications and energy improvements can all help to reduce carbon usage. The redesign of hulls, for example, has led to reduced energy use in the shipping sector.

“ Changing the shape of the bow of the vessel can reduce the drag which significantly increases efficiency, saving fuel and reducing our emissions. The business case from CalMac’s perspective would be compelling with the pay back from fuel savings in say 10 years.”

CalMac

03 Adapting existing transport – investment in technologies that can be applied to existing transport methods could help speed up the decarbonisation of the sector and increase accessibility to more sustainable models. Retrofitting ships to use ammonia as a fuel source, for example, will be deployed commercially in 2030. It is expected that this will deliver around 87% of the emissions savings from shipping.

04 Hybrids – plug-in hybrids may overcome the range limitations of fully electric vehicles, but when powered by oil-derived fuels, should be considered a bridging technology toward zero emissions using full electric power.

- 05 **New technology** – future technology could create new forms of transport, such as electric or hybrid aircraft, that could boost progress towards Net Zero in sectors that are currently more dependent on offsetting.
- 06 **Eco-driving schemes** – it has also been reported that eco-driving schemes in freight, such as those used to smooth acceleration/deceleration, a focus on driving speed or idling and route choice, can achieve 12% fuel consumption savings.
- 07 **Infrastructure changes** – increasing the density of urban landscapes and restructuring freight logistics to create urban consolidation centres can reduce the number of journeys. The study shows that urban consolidation centres could reduce the number of vehicle movements by 50-85% and are cost-effective. Considering decarbonisation targets in future planning could help create more compact urban centres or increase the use of alternative freight methods, such as rail.
- 08 **Behavioural changes** – encouraging the use of localised products and internet shopping could reduce carbon use, particularly in conjunction with infrastructure change and with the growing use of last mile deliveries made using green technology in the case of land freight. Changes to business models, such as the increase in slow steaming in the maritime sector has already seen reductions in levels of carbon used.

- 09 **Improved logistics** – steps such as the wider sharing of data and possibly load pooling could help in the medium-term as businesses move towards Net Zero. Changes to delivery times to avoid congestion or adapting existing infrastructure such as bus lanes could boost efficiency and therefore reduce carbon.
- 10 **Reassessing business models** – reviewing existing models can help identify inefficiencies that can help reduce carbon use during the transition phase. The report finds, for example, that reducing empty-running (which has grown over recent years due to faster delivery time and just-in-time supply chains) could lead to significant reductions and efficiencies.
- 11 **Information and communication technologies** – use of advanced communication and automation can help streamline operations and reduce wasted journeys or optimise loads. The increasing availability of data (vehicle telemetry – the in-situ collection of measurements or other data at remote points and their automatic transmission to receiving equipment) increases efficiency savings through route optimisation, for example.

“ The current consumer delivery model could be more efficient and therefore reduce the impact to the environment – at the moment the focus is on ‘Delivery next day’ not on how the delivery could be most efficient.”

Wincanton

“ If we can prevent empty mileage it is good for the environment and it's good for us as a business, because if a truck is moving and it hasn't got something in the back it's costing us money... And you know if you planned every truck in the UK as efficiently as you could, you could probably reduce the fleet of trucks in the UK by at least 25-30% and still do the same amount of work.”

Suttons

Guidance to support your transition to Net Zero

With targets and phase-out dates set, many businesses will be wondering where to start or how to progress on their journeys to Net Zero. While the diverse nature of the national and international freight transport sector and the complexity of the challenge should not be underestimated, if domestic and global targets are to be met, action is required – and it is required now. Approaches will vary, depending on many factors, but the research has identified some common tactics to help you as you progress on your path to Net Zero.

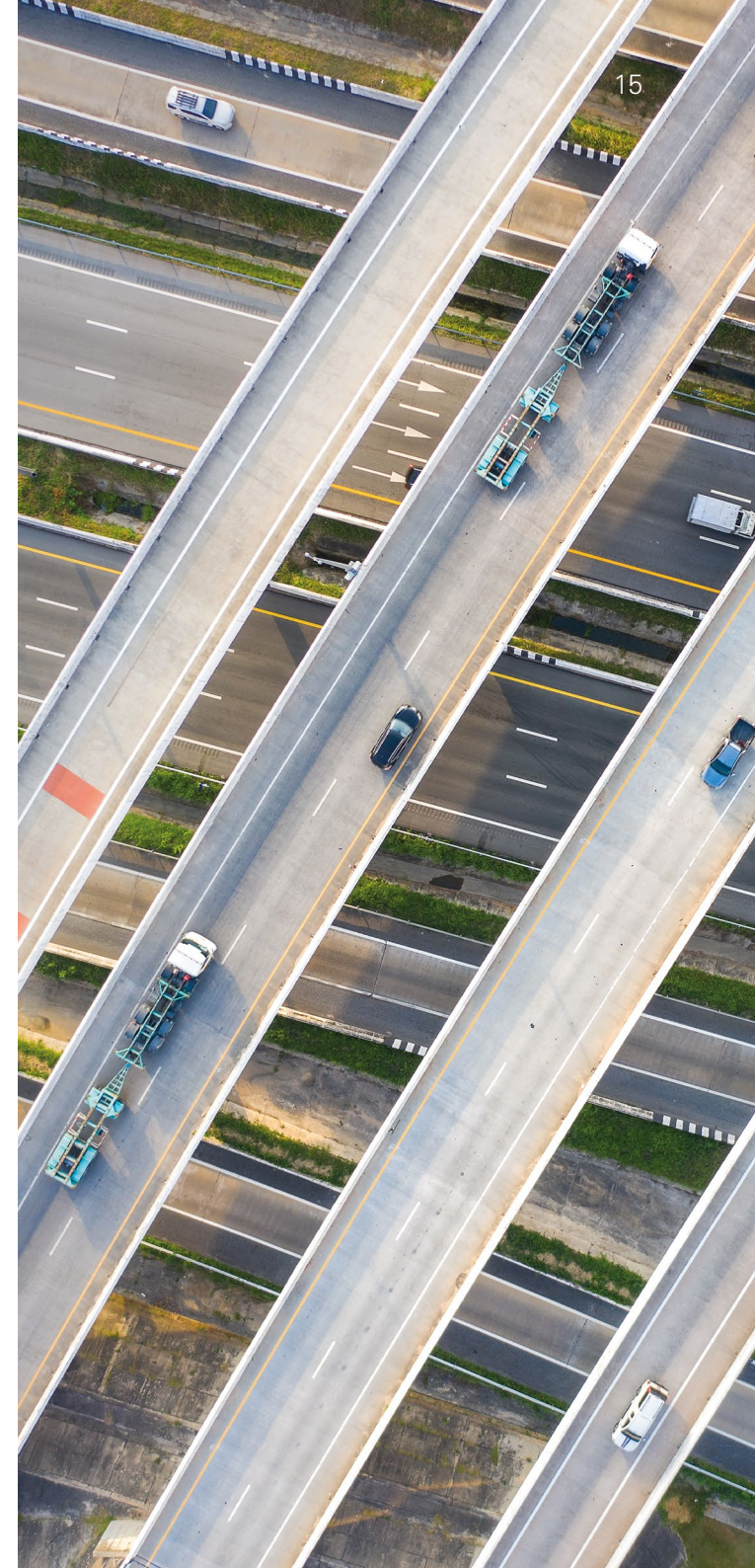
- 01 Data is critical** – measuring where you are in terms of carbon footprint and putting tools in place to monitor activity and enable reporting will become more and more important. Most businesses will already track fuel usage as a cost anyway, so this shouldn't be too much of a stretch.
- 02 Understand stakeholder sentiment** – customers are increasingly looking for information about carbon emissions in their supply chain as part of their own Net Zero strategies. Bidding for contracts, particularly those in the public sector, will increasingly require this and attracting talent may also depend on your environmental credentials.
- 03 Create policies and an overarching strategy** – Net Zero can present both risks and opportunities for the transport sector. For many businesses, investment

“ It feels that since February this year (2021), it has got to the point, when every day, somebody would come and ask me, what are we doing to get to Net Zero – the interest in Net Zero has literally ramped up...”

Wincanton

“ Even though we haven't necessarily got the infrastructure yet, every new vessel that comes on, we're going to request that it has the ability, so that then provides us with the options to reduce emissions.”

CalMac



is a long-term proposition, so thinking ahead and building a strategy to achieve Net Zero and policies to support your transition will make you well-placed to mitigate risk and maximise opportunity.

- 04 Keep up to date with new legislation** – regulation around climate change is constantly evolving. In some industries, consultations are occurring to help shape the direction of travel. Keeping track of these and participating where possible could help you be part of the conversation. Trade bodies, industry events and working closely with your existing consultants, including your HSBC UK relationship manager, can provide guidance and support.
- 05 Communicate** – sharing information with stakeholders – from investors to employees to customers – on how you're working towards Net Zero will help increase engagement and may lead to competitive advantage.
- 06 Monitor new technologies** – don't get left behind and instead understand what new technologies could mean for your business; what are the advantages and disadvantages? When do you need to act to secure the technology? It could help your long-term strategy and decision-making.
- 07 Look for the quick wins** – what can you control within your own operations and where can you make efficiencies now?
- 08 Consider transition as a crucial phase** – for many sectors within the transport industry, the path to Net Zero is not straightforward, so considering technologies and solutions that can bridge the gap and help support transition will be crucial, for example, hybrid technology or transition fuel types.

- 09 Establish the broader benefits** – understand the link between carbon reduction and efficiency and cost reduction, which can help achieve business buy-in, but also look at how reducing pollution and promoting safer practices can enhance the social and governance aspects of ESG too.
- 10 Explore collaboration** – with manufacturers, energy providers or local government to support infrastructure and maintenance over the longer-term.

“ One key thing is what we do for long-distance, heavy trucks. So providing everything works with biomethane we would get an 80% reduction on CO₂ versus diesel right now. We believe that there will be zero-carbon biomethane available next year: so there's going to be quite a lot of demand for biomethane. It's therefore probably going to be quite important to secure suppliers.”

John Lewis Partnership



Conclusion and key findings

The businesses interviewed as part of UCL's research were optimistic that Net Zero is achievable for the transport sector with the right knowledge and support, and that pursuing that goal will lead to positive transformation.

The research highlighted the considerable impact the transport sector has on climate change through high levels of emissions both in the UK and globally. That makes it particularly important that the sector is part of the solution to limit carbon levels and mitigate the effects of climate change.

However, despite clear targets, such as those set out by the UK Government in the 'Transport Decarbonisation Plan' published by the Department for Transport in July 2021, uncertainty remains about issues such as the viability of options for decarbonisation, how such seismic shifts will be funded and even whether the infrastructure will be available to facilitate such shifts.

The diversity of the sector means that businesses are at different stages – with surface transport (land and sea) generally having more options than aviation, and within that, greater choice for lighter vehicles on shorter routes. Non-fuel-based solutions, such as managing demand, operational efficiency, optimised engine or vehicle/vessel design and broader infrastructure changes may help to mitigate emissions and are already helping businesses improve performance and profitability through greater efficiency. They will be an essential part of the transition.

But the key to successful decarbonisation in the sector is clearly fuel. For road and rail transport, the research found that electricity is emerging as the frontrunner,

with hydrogen possibly used to extend range. For the shipping industry, ammonia has been identified as a viable alternative fuel source. Meanwhile, practical alternatives for fuelling the aviation sector remain challenging, thus creating reliance on operational and technological improvements and the use of strictly-monitored offsetting.

There are, of course, broader implications. As the report highlights, greater production and distribution of hydrogen and ammonia will be required, electricity generation must not compromise carbon reduction, and both investment in renewables and grid improvements will be necessary. That in itself will create opportunities for the freight transport sector – through the transportation of the goods needed to power this transformation. The predicted growth in demand for freight transport, both in the UK and globally, means that greening the sector is the only way to achieve Net Zero by 2050.

The targets in place mean that change needs to start now if it hasn't already. Despite the lack of clarity, around options for decarbonisation and where to invest, the general direction is clear and early engagement with and adoption of strategies to Net Zero are needed. Many of the businesses highlighted in the research are already seeing a link between improved efficiency and environmental credentials, for example. The time for starting your journey to a more sustainable, productive, and profitable future is now.

For more practical support and guidance on turning your sustainability ambitions into an achievable transition that makes business sense, please speak to your Relationship Manager or visit our [sustainability hub](#).

“ The government just legislates to force you to do something but that means that you’ve then got to make decisions about appropriate technologies and, that might lead you to make the wrong decisions rather than the government developing a strategy that says here's where we want to get, so let's work as an industry.”

Suttons

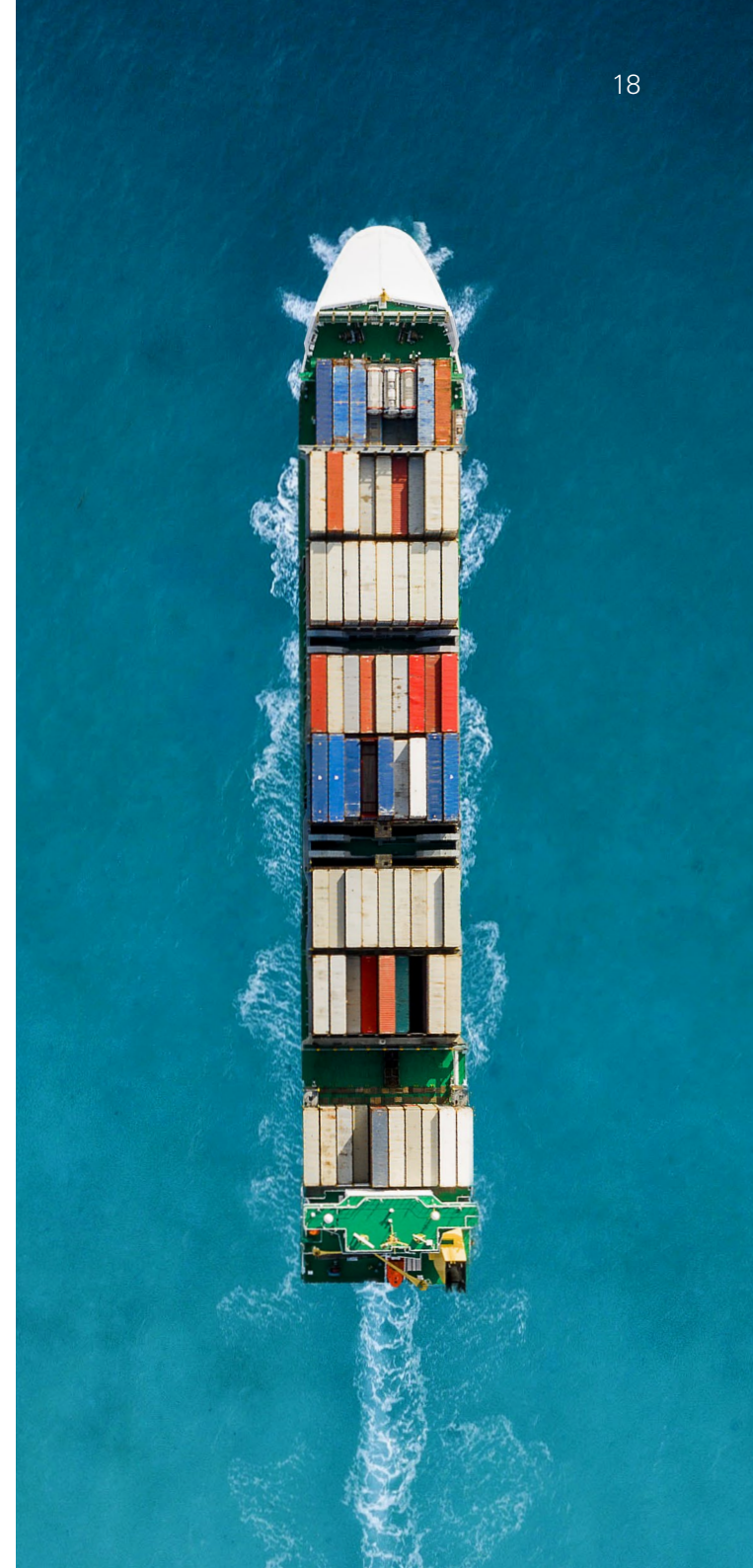
“ I can only recommend to those organisations that are not engaged in this space yet to start to think about it, and start to learn about it, think about what they can do, educate themselves, build a vision of where they want to be by a certain date. Think about making the first steps. Don't continually put it off because the longer it gets delayed the more painful it's going to be.”

UPS

Further information

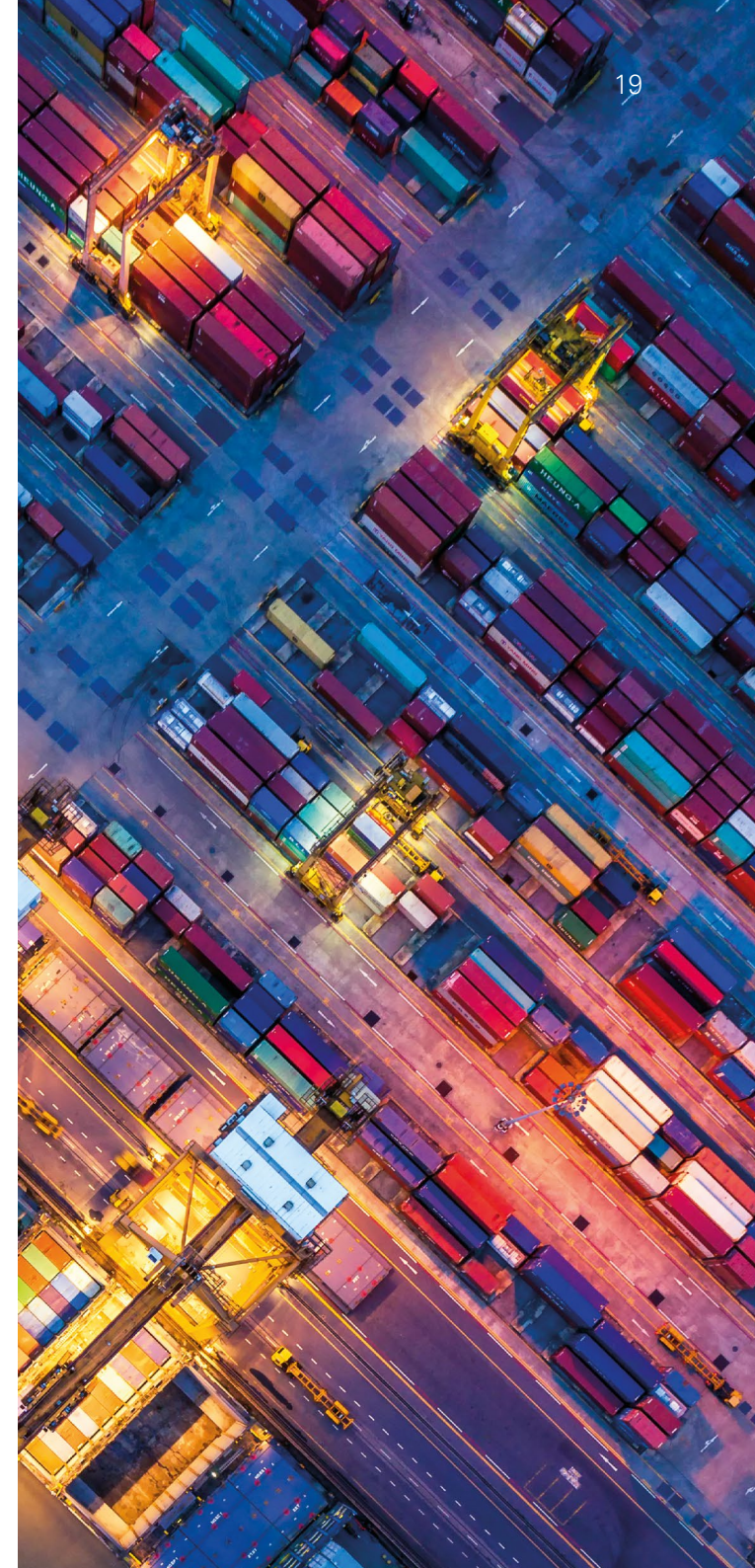
The report is available on the [HSBC Centre of Sustainable Finance](#).

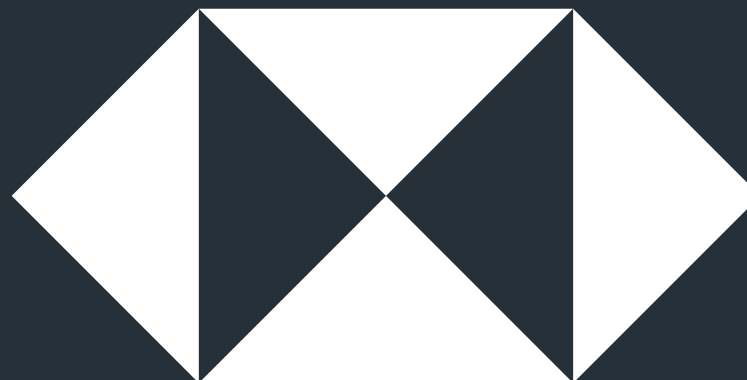
You can download a full version of the UCL research [here](#).



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