Open Awards Qualification Unit

This unit forms part of a regulated qualification.

10 Unit Details

Unit Title:	Sustainability in Logistics and Supply Chain Operations
Unit Reference Number:	F/618/2506
Level:	3
Credit Value:	4
Minimum GLH:	32

2 Learning Outcomes and Criteria

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the environmental impact of logistics operations	1.1 Identify the types of pollution generated by logistics operations
	1.2 Discuss the term E waste and outline the environmental impact this has on the local community
	1.3 Explain the impact of traffic congestion in urban and conurbations
2. Understand a range of initiatives that could assist in reducing the environmental impact of logistics.	2.1 Discuss a range of alternative fuel types
	2.2 Explain some of the key initiatives that are addressing the environmental impact of logistics
3. Understand how effective route planning can reduce the environmental impact of logistics operations	3.1 Explain the importance of effective transport route planning in logistics operations
	3.2 Discuss the tools used for transport planning and optimisation in order to minimise carbon footprint of logistics road operations
	3.3 Describe the role of telematics in reducing road the impact of road logistics operations on the environment.

Learning Outcome 1 - Indicative Content

This learning outcome will introduce the student to a range of different types of pollution that are associated with global logistics operations and will therefore, understand the wider reaching effects of this on the environment. Learners will investigate air, noise, water, solid, pipeline spillage and light pollution and the true impact these elements are having on the biosphere.

One controversial element of world trade is the export of waste, especially E-waste, which simply transports the environmental risk and impacts to another geographical region. As the western world continues to produce more solid waste through increased consumption, the practice of exporting waste to developing countries has been the regular waste management strategy. Through this learning outcome the learner will investigate and understand the real impact of waste export on the environment and society in countries like China, Ghana and Nigeria.

Urban congestion as a result in the growth in road transport, is becoming an ever-increasing issue in most towns and cities, not just in the west but also in developing countries. The learner will be introduced to some of the key elements of urban congestion and will understand the effects of growth in urbanisation in Asia along impact e-commerce on last mile logistics in western countries. The learner will understand how Urban congestion contributes to air quality, noise, productivity (GDP), social / psychological, increased freight costs.

Learning Outcome 2 - Indicative Content

With the effects of climate change, there is a global focus on developing alternative fuels to traditional hydrocarbons, as the international community looks to create a more sustainable environment in the future. Alternative fuels are of particular focus in the logistics sector, as companies are increasingly seeking to become greener and more sustainable, with many transport operations looking to adopt new fuel types to power their transport systems. This learning outcome will introduce students to a range of alternative fuels for example, electric, hydrogen, biofuels and waste to fuel type options and will understand the limitations some of these energy sources present.

Increasingly more environmental initiatives and policies are being introduced in order to encourage changes in behavior of transport users and in particular, logistics transport operators. Through this learning outcome the student will be introduced to and develop an understanding of some of these policies and initiatives for example, Ultra Low Emission Zone (ULEZ), Congestion Charging, Clean Shipping Index, Cold Ironing and road pricing. These type of initiatives will continue to evolve in the future therefore students will be able to analyse the effects (both positive and negative) and predict how these will effect logistics operations in the future.

Learning Outcome 3 - Indicative Content

Effective transport planning sits at the heart of logistics operations, for a wide range of business and environment reasons. Through this element of the unit, the student will understand how transport planning contributes to fuel, tyre and vehicle maintenance costs, time compression, carbon footprint reduction and maximisation of vehicle utilisation. Effective transport planning also reduces the risk of service level agreement (SLA) and key performance indicator (KPI) failure, whilst protecting contract obligations.

Traditionally route planning for road transport was undertaken through the use of road map books, which relied on the experience of the transport planner or the driver themselves. With the introduction of the internet and development in digital web-based platforms, transport planning has become a more effective and technical in nature. Following this learning outcome, the student will understand some of the latest digital software journey or route planning tools, that incorporate some information for example, restrictions at customer sites, heights, weight, width and length restriction data, to ensure first time delivery of freight is achieved. Some of the key producers of route planning software in the UK include Paragon Routing and Mandata which provide substantial information of this element of transport operations.

The role of telematics is a key tool in helping road transport organisations contribute to carbon footprint reduction. Telematics provide information of vehicle performance including mpg, vehicle utilisation and tracking in real time. Students will understand how this software can significantly contribute to gathering the relevant information on road transport performance, and synthesis this with route planning in order to improve the sustainability of this operation.