# HGV Decarbonisation

## Pathway for Scotland

### Zero Emission Truck Taskforce

# Contents

# A collaboration between:

BVRLA

HYDROGEN VEHICLE SYSTEMS

LOGISTICS UK

MALCOLM GROUP

Menzies DISTRIBUTION

FINANCING THE ENERGY TRANSITION neot

RHA

RUSSELL GROUP

ScottishPower

Scottish & Southern Electricity Networks

SCOTTISH WHOLESALE ASSOCIATION
The voice of the Scottish Food, Drink and Allied Trades

SMMT DRIVING THE MOTOR INDUSTRY

TRANSPORT SCOTLAND
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# Foreword

## by working group chairs and Transport Scotland

This pathway represents 18 months of hard work and learning from all involved in the Zero Emission Truck Taskforce. Our task was to work collaboratively across haulage, manufacturing, energy, government, union and finance sectors to understand and overcome the barriers to zero emission HGVs in Scotland.

The stakes could not be higher. Both our economy and our society rely on goods being moved with speed and efficiency, and yet these freight movements currently emit substantial greenhouse gases. Many hauliers operate small fleets and want to decarbonise their operations but need to be confident in the commercial and technical changes ahead.

We have worked collectively to understand and address the hurdles to transition and are moving as fast as we believe can currently be achieved.

We do not underestimate the scale of the challenge – road haulage is a complex and highly competitive sector with multiple existing pressures, differing operational needs and a wide variety of business models. Transitioning to zero emission HGVs will require additional investment from all the sectors involved in the Taskforce (energy, finance, government, haulage, skills and manufacturing). We will all have to explore new ways of doing things and take on some elements of risk, recognising that each of us is dependent on others playing their role.

We are in the early stages of the move to battery electric and hydrogen fuel cell trucks. Technology and business models are developing fast. We recognise that we have an incomplete picture at this stage and transition will require further action once markets are more mature. In addition to delivering the actions we have committed to, we will collectively revisit the pathway in three years to build on the progress made.

The Taskforce focussed on trucks being fully zero emission at the tailpipe as soon as possible, in line with other transport modes and sectors. It did not consider transitional solutions which are already in use (such as low carbon fuels) and recognised that parallel work is underway to transfer long distance goods to rail and water where feasible.

Achieving change requires deep collaboration and for all of us to be open to embracing new partnerships, technologies and financial models. We would like to thank everyone who has engaged in this process and provided their time and expertise to help shape this pathway. It has been deeply encouraging to understand the breadth of change already underway.

# Key messages from the Taskforce

# Key messages
## from the Taskforce

This pathway is based around the four key challenges posed by a move to zero emission trucks:
- energy infrastructure
- financial models
- confidence in technological and commercial change
- workforce skills.

The challenge sections include learning on emerging solutions and the specific actions that Taskforce members will take over the next few years.

In addition, the Taskforce has collectively come to three important conclusions which must shape all further action:

### 1 None of us can do this alone – working collaboratively is essential

We must continue to collaborate effectively, sharing learning and technological or financial innovation wherever possible across haulage, energy, finance, government, manufacturing and skills sectors. To ensure a Just Transition, all actors within all supply chains, upstream and downstream, have a collective responsibility to understand the complexity of the change required; to invest in overcoming the hurdles to decarbonisation; and to adapt to different ways of doing things to enable the transition.

# Key messages
from the Taskforce

## 2 Where the technology is proven and commercially viable, haulage, energy and finance businesses should be transitioning now

Battery electric HGVs are already available for smaller urban and back to base operations. Leasing and pay by use options are developing. Depot charging, while complex, is increasingly well explored for heavy vehicles with a range of intermediary firms available to liaise with DNOs (Distribution Network Operators) and (where required) offer financial models to support it. Such operations should transition to battery electric as soon as is feasible.

Long distance heavy haulage firms should be exploring whether battery electric or hydrogen is most likely to suit their operations and beginning energy infrastructure preparations accordingly. Long distance battery electric and hydrogen fuel cell vehicles are at trial/prototype stage and expected to come to market at scale in 2–5 years where energy infrastructure and demand are in place. Further steps to encourage and enable roll-out of zero emission heavy HGVs will be collectively considered at that point, taking into account progress towards shifting freight to rail and water where possible.

## 3 Action is needed to enable smaller fleet operators to collaborate, reducing risk and opening up opportunities

Small hauliers are vital to the wider haulage ecosystem. Larger firms should consider offering access (for a reasonable price) to energy infrastructure or other assistance which enables peers to decarbonise faster.

Small fleet operators should begin their transition as soon as they can, learning from larger fleets and exploring opportunities to act. This may include allying with other transport operators (e.g. HGV, coach, van or public sector) to develop shared projects at a scale which will attract commercial investment or improve viability in other ways. Small companies are less able to afford or absorb risk and will require mechanisms to share learning and participate in projects which scale up demand for vehicles and/or infrastructure.

# Timeline

**Already happening**

- Battery electric HGVs available for back to base operations and smaller sizes; being trialled for 40-44t
- Hydrogen fuel cell vehicles at prototype/trial stages
- Electricity grid upgrade costs partially shared by taxpayers
- Detailed information on the hurdles facing HGV decarbonisation and an agreed sequence of actions to overcome them
- Vehicle/energy/battery-as-a-service business models in use for buses

**Next 2 years**

- Better understanding of the Scottish en route energy infrastructure required for zero emission HGVs
- Further changes to the electricity market
- Bus operators and public fleets increasingly sharing energy infrastructure with other fleets
- A culture of collaboration between operators, the manufacturing, energy and finance sectors built upon robust data

**Next 5 years**

- Mechanisms developed for small fleets to access the commercial investment and economies of scale available to larger fleets
- Operators, both large and small, are confident in the technical and financial choices open to them
- A wide range of zero emission HGVs up to 44t will be available where infrastructure and demand are in place

**2030**

- 50% of European truck sales by Scania, Volvo and Mercedes Benz will be zero emission vehicles.
- Depot charging and fuelling is well understood and timescales for installation are clear
- There is sufficient en route energy infrastructure across Scotland to unlock wider transition

**2035**

- New HGVs under 26 tonnes sold in the UK must be zero emission
- The Scottish workforce is confident and equipped to handle decarbonisation

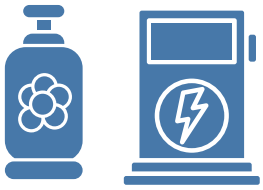
**2040**

- All new HGVs sold in the UK must be zero emission
- All zero emission HGVs can charge and fuel as required in Scotland, at depots, destinations and en route

# Challenge 1: Access to energy infrastructure

Challenge 1:

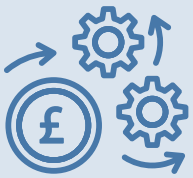
# Access to energy infrastructure



**World we wish to see:**

- Zero emission HGVs can charge and fuel as required across Scotland, with an ample mix of en route, depot and destination opportunities at reasonable cost.
- Energy infrastructure is shared between road haulage operators and with other heavy duty vehicles (e.g. coaches, municipal vehicles) where feasible. The Scottish planning system enables a swift and safe transition to charging and fuelling zero emission trucks.
- Electricity networks have forecast HGV energy use out to 2045 in detail by working in partnership with the haulage sector.
- Obtaining or enhancing a grid connection is a relatively quick and straightforward process (particularly for smaller connections), well understood by operators and drawing on a shared terminology and understanding.

## Already happening



Various companies already offer charging services for HGVs, including energy-as-a-service models where the operator pays a monthly fee or a cost per kilowatt used. Under this model, the company project-manages the installation and operation of the chargers, and the relationship with the electricity network. These models can be applied to depots or en route charging.

The Scottish public sector and bus operators are exploring shared access to their charging infrastructure.

Some manufacturers are offering depot charging services through partners and three major firms have formed **Milence** which is developing en route high capacity charging (including mega-charging when available) in mainland Europe and the UK.

There are en route HGV charging stations at development stage, including two consortia supported by UK Government as part of the zero emission HGV and infrastructure demonstrator programme:

**Electric Freightway**, a £100million+ consortium led by GRIDSERVE to lay the foundations for a UK-wide network. 70% of the planned chargers will be open access.

**eFreight 2030**, led by Voltempo and featuring megawatt-charging capacity.

Energy costs can be reduced and resilience improved by load management software, good advance planning and onsite generation/ batteries.

## Already happening (continued)

**The overall cost for users connecting to the electricity distribution network reduced from April 2023** due to Ofgem's Access and Forward-Looking Charges Significant Code Review. A threshold known as the high-cost cap has been introduced to protect customers from excessive costs.

The UK Government is currently conducting a Review of Electricity Market Arrangements which is likely to lead to widescale reform in the way the electricity network is managed. This could impact future electricity prices in Scotland.

**Hydrogen distributers are confident that they can provide hydrogen as required** and confirm that investment is sufficiently available to them.

The **future energy demand for Scottish transport has been forecast**. In all scenarios, transport's energy demand is expected to be well within the capabilities of the Scottish renewable energy sector.

Some Regional Transport Partnerships and Local Authorities are prioritising hydrogen for economic growth in their areas.


### Taskforce actions:

- The Scottish Government will support the Zero Emission Truck Taskforce to work with Heriot Watt university to produce a map indicating where the initial en route charging/ hydrogen refuelling stations for zero emission HGVs are required in order for operators to begin to transition. This map will be used to build market confidence, liaise with Ofgem, and to stimulate discussion with the energy sector and financiers.
- To provide better cohesion between the Distribution Network Operators and the road haulage sector, DNOs will work with operators to forecast HGV electricity usage out to 2040, encouraging mutual sharing of information and holding workshops for operators. Trade associations including Logistics UK will promote these workshops to members.
- Energy infrastructure will be owned and operated by the private sector. If, as energy infrastructure develops, market failure becomes apparent (eg in remote or rural areas), the Scottish Government will consider intervening to support a Just Transition for the whole of Scotland.
- Any future Scottish Government investment into heavy vehicle charging infrastructure will strongly encourage the shared use of infrastructure across operators and sectors wherever possible.

# Case Study

## Infrastructure sharing in Scotland

Located on Glasgow's southside, First Bus's Caledonia Depot has 160 state-of-the art rapid-charging points. Originally designed for the buses operating out of the depot, the Plug and Charge solution is benefiting third party businesses by providing DC ultra-rapid charging for commercial electric vehicles.

First Bus has established arrangements with delivery service DPD and Police Scotland to access charging at Caledonia while the electric bus fleet is out in service. They have worked closely with Hitachi ZeroCarbon to enable the depot's charge points to be controlled via smart charging software ensuring that power is used in the most efficient way and minimising draw down from the national grid at peak times.

More recently, First Bus have partnered with broadband network Openreach for their vehicles to access charge points in both Glasgow and Aberdeen bus depots.

First Bus is interested in hearing from businesses who wish to benefit from this partnership across its Caledonia, Scotstoun and Aberdeen sites.

# Challenge 2: New financial models supporting decarbonisation

Challenge 2:

# New financial models supporting decarbonisation

**World we wish to see:**

- A mix of operators owning their own trucks/energy infrastructure while others access a vibrant leasing market with both traditional and new "as a service" offerings which smooth the high initial costs of decarbonisation over an asset's lifetime, benefitting all parties.
- Small fleet operators can access the commercial investment and economies of scale available to larger fleets with a vibrant second-hand market also developing over time.
- Commercial investment is available as required for both battery electric and hydrogen HGVs and their associated infrastructure.
- The risks involved in financing HGV decarbonisation are equitably shared by all parties including operators, financiers, OEMs, those contracting fleet services and (where required to initially unlock the transition) government.

## Already happening

The high initial costs of transitioning to battery electric vehicles will in time be offset across the vehicle's lifetime by lower operational costs. Independent modelling by the **Green Finance Institute** and the **International Council on Clean Transportation** for HGVs demonstrates this for UK operations with similar evidence developing in many other EU and international contexts. A comparable trajectory has already been realised for battery electric buses and investors are acting on this understanding.

Commercial investors are well engaged with HGV charging, including various energy-as-a-service models.

Business models for vehicle-as-a-service (a service whereby the operator pays a monthly or per km fee to access vehicles and infrastructure) and battery-as-a-service (a service that leases the battery separately) are in operation in the UK for buses, vans and other vehicles.

The Green Finance Institute brought together global experts to develop solutions for financing zero emission HGVs and their energy infrastructure. The results are set out in **Delivering Net Zero: Unlocking Public and Private Capital for Zero Emission Trucks**, and the GFI will work with interested parties to demonstrate how they can be used to mobilise capital at scale.

Truck-as-a-service is already available in the UK for battery electric HGVs and Hydrogen Vehicle Systems is working with partners to **develop truck-as-a-service for its hydrogen fuel cell HGVs.**


## Taskforce actions:

- The Scottish Government will develop a forum for operators who are open to leasing battery-electric vehicles to share information with finance/ energy/ leasing sector bodies who are developing such products and services.
  - Organisations within the finance/energy/leasing sectors will look to develop innovative new products, services and business models that can make battery electric HGVs more affordable for SME hauliers. For example, they may be able to lower the monthly lease rate of battery electric HGVs by leasing them over a longer period, or by using the battery in second life applications such as grid storage.
  - The Scottish Government will build on the work done by the Green Finance Institute to increase understanding of the risk factors affecting finance and leasing costs and seek to identify routes to reduce those risks and therefore improve affordability.
  - The Scottish Government will consider any reasonable requests for short-term de-risking of the first mover initiatives that can demonstrate a genuine requirement for public sector support.
- SMMT will work with OEMs and operators to identify the tax incentives and capital allowances that could encourage operators to invest in zero emission vehicles/infrastructure.
- Logistics UK and RHA will facilitate and promote the merits of voluntary demand aggregation with their members, recognizing that small operators require access to models enabling them to access the commercial investment and economies of scale available to larger fleets.
- RHA will facilitate a programme of knowledge-raising for financiers to enable and encourage the development of appropriate financial products. The finance sector will be encouraged to bring forward financial products that enable operators to transition to zero emission HGVs.


## Case Study

**Infinium** support commercial fleets by providing large scale charging sites. Fleets using the site pay no upfront capital expenditure costs – the land is owned by Infinium and all site upgrades and hardware installation are paid for by them. Instead, operators pay a bay rental cost and electricity costs which are benchmarked at below market rate for renewable power for the duration of the contract.

Cost savings can be made by operators using this model with projections demonstrating notable savings compared to operators electrifying their own sites. These savings accrue from Infinium's use of a mix of on-site power generation; battery storage to minimise peak electricity use; appropriate use of energy trading markets; and in some cases public ultra rapid charging for cars and contracting an on-site food beverage franchise (e.g. Starbucks).

Among their current locations, Infinium own a 16 acre site in Banbury split between a large warehouse, charging for 500 electric vans, a food and beverage location and 3 ultra rapid chargers for the public. The key to enabling this has been the identification of anchor tenants who commit to large scale utilisation for a sizeable period (minimum 4 years), in this case Amazon and Starbucks. This satisfies the requirements of the investors backing Infinium by guaranteeing sufficient return on investment and allows the purchase and electrification of the site using investment capital. Additional operators can then contract for access to separate areas of the site at a much smaller scale.

Infinium are exploring the operation of truck stops with full security and welfare facilities and are actively seeking HGV projects.

Other companies operate similar models acting as an intermediary between investors, the energy sector and haulage operators (either energy infrastructure or both vehicles and infrastructure). They include options to electrify depots or sites owned by the haulier. Examples include **GRIDSERVE**; **FOR:EV**; **Fleete** and **Schneider Electric**.

# Challenge 3: Confidence in new technologies and business models among first movers and small operators

Challenge 3:

# Confidence in new technologies and business models among first movers and small operators

**World we wish to see:**

- Operators are both aware of the emerging technologies (battery electric and hydrogen) available to them and confident they perform effectively.
- There is a wide range of zero emission HGVs with appropriate auxiliary equipment available to the Scottish market.
- A variety of business models for zero emission HGVs is available to suit different haulage operations, models are well understood, make sound commercial sense and can be appraised effectively by decision makers.
- Small HGV fleet operators can, where appropriate, choose to join larger collaborations which give access to commercial finance and other mutually beneficial outcomes.

## Already happening

Trade bodies are building knowledge among members, with dedicated resources available to members and more widely. This includes Logistics UK's **decarbonisation consultancy** and **environmental campaigns and reports**, the Scottish Wholesale Association's **decarbonisation toolkits and case studies** and the Road Haulage Association's **Net Zero Forum**.

Trade publications increasingly include zero emission vehicles and infrastructure and **Freight Carbon Zero** focuses solely on zero emission HGV news.

The UK Government is investing up to £200m in the zero emission HGV and infrastructure demonstrator programme. **Four collaborative projects** focused on 40-44 tonne operations will see the deployment of up to 370 zero emission trucks and associated energy infrastructure across the UK.

Scotland is one of many governments signed up to the **Global Memorandum of Understanding on Zero-emission Medium- and Heavy-duty Vehicles**, ensuring that international progress is made on decarbonising commercial vehicles.

**EV100** and **HGV Zero** are coalitions of global fleets committed to decarbonisation. Peers are encouraged to share information and collaborate.

## Already happening (continued)

Small fleet operators already participate in demand aggregation through existing models such as purchase frameworks or Special Purchase Vehicles.

The manufacturer's regulated range figures for HGVs are calculated while the vehicles are fully loaded (unlike cars and vans), removing one variable influencing range.

Major manufacturers expect

**50%**

or more of their European truck sales to be zero emission by 2030 including Volvo Group, Scania and Mercedes-Benz.


### Taskforce actions:

- SMMT will work with trade bodies and Taskforce members to deliver a conference showcasing the technological and financial developments in zero emission HGVs. This will cover myth busting, infrastructure, policy, skills and finance, and will seek to build collaboration.
- OEMs will implement better sharing of data and learning, ensuring broad learning from formal trials is widely shared with operators and financiers to build confidence. This will include a focus on hydrogen safety.
- The Taskforce will develop or signpost guidance for operators to build the sector's understanding and knowledge of zero emission HGVs and their associated energy infrastructure requirements. It will include:
  - Straightforward information for operators seeking to install or access charging/hydrogen fuelling covering both technical and commercial aspects.
  - Information regarding all available and forthcoming zero emission HGVs in the UK, including detail on range and payload
- Fleet operators will be encouraged to develop decarbonisation strategies and share them to the extent they consider appropriate.
- Trade bodies including Logistics UK, RHA and BVRLA will support their members to understand and engage with the new technology and business models, recognising the need for knowledge building and trusted sources of information.
- Scottish Government will bring stakeholders together to assess progress towards HGV decarbonisation and consider a further iteration of the pathway three years after publication.


# Case Study

## Electric timber truck trials in Scotland

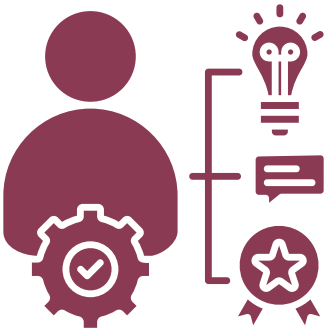
A three-year trial of two heavy duty (40 and 44 tonne) battery electric timber trucks is underway in Scotland, including one vehicle fitted with a specialist Metsatek timber body and Ecco bolsters. **Scottish Forestry** is working in partnership with **Creel Maritime**, **James Jones & Sons Limited**, **Scotlog Haulage Ltd**, **Volvo Trucks**, and **Cleaner EV**, to explore range, charging times, performance, and total cost of ownership.

Both vehicles are in use and preliminary results are very positive. A key element of the three year trial is that all partners involved are committed to sharing their experiences of running the electric lorries with others in the timber and haulage sectors. Information is being shared on a web portal: **Vehicle Updates – Creel Maritime Ltd**.

# Challenge 4: Workforce skills to procure and operate zero emission HGVs and their energy infrastructure

Challenge 4:

# Workforce skills to procure and operate zero emission HGVs and their energy infrastructure



**World we wish to see:**

- Scotland has a skilled workforce, confident and equipped to handle the challenges presented by mass transition to zero emission HGVs.
- Sufficient training courses are in place to support the procurement and operation of zero emission HGVs, including for decision makers.
- There is widespread access to training courses which support those entering the workforce, those already in the sector and workers retraining from other industries.
- There are high levels of awareness of the training courses and employment opportunities in Scotland associated with zero emission HGVs and energy infrastructure.

## Already happening

Energy Skills Partnership chair an Automotive Training Network to increase colleges' capacity in zero emission transport skills. This includes local colleges delivering awareness events for electric vehicle courses to local garages; and a Hydrogen Training Network (see below).

Transport Scotland has published **a report to baseline the skills situation** for the heavy duty vehicle sector in Scotland.

Hydrogen qualifications are under development, with Institute of the Motor Industry Level 1 Hydrogen Vehicle Awareness available now, and more technical maintenance qualifications at levels 2 and 3 being written.

Work is already underway to refresh many of the initial training frameworks in colleges and universities.


**Taskforce actions:**

- RHA and SMMT will identify occupational career pathways and existing training courses, and evidence gaps in provision and funding. A pipeline of training offerings and a training map will be published.
- SMMT will develop and publish a skills for technology road map.
- The Scottish Government will identify and share widely the learning from decarbonisation of the bus and public fleet sectors, and the development of the public charging network for light vehicles in Scotland and work with other countries to exchange learning on HGV decarbonisation.

Kittybrewster hydrogen refuelling station

# Case Study

The **Energy Skills Partnership** (ESP) is a collaboration of Scotland's colleges, established with the aim of increasing Scotland's capacity to deliver skills supporting the move to net zero.

## Hydrogen Training Network:

ESP has developed a programme of activity to support the upskilling of training staff and industry. This includes Scotland's first accredited hydrogen qualification, the **Professional Development Award Hydrogen: An introduction for Technicians** and hydrogen qualifications from the Institute of the Motor Industry piloting in Scotland's colleges. There are also **free online learning** courses on hydrogen awareness and hydrogen in transport, and specialist resources such as simulators, training rigs and a virtual reality hydrogen operating environment.

## Automotive Training Network:

ESP provides access to training and equipment to allow colleges to teach the skills needed for zero emission vehicles. This includes Truck Train Training Systems that replicate an electric heavy vehicle and allow learners to undertake experiments and fault-finding in a safe environment. ESP also facilitates CPD visits, including to Kittybrewster hydrogen refuelling station and Alexander Dennis to see electric and hydrogen fuel cell buses being manufactured.

# Next steps

The Zero Emission Truck Taskforce has been a powerful collaborative process, and all of the organisations involved in developing this pathway have welcomed the opportunity to engage. We have demonstrated our clear willingness to work together across haulage, manufacturing, skills, finance, energy and government sectors and we pledge to continue to work closely together.

The pathway is only an early step of the journey that we are all on. We collectively recognise that more must be done and that we must maintain our energy and involvement, actively embracing new partnerships, technologies, and business models.

Even during the 18 months of the Taskforce, much has changed – and it will continue to do so. We live in an interconnected world and events outside our borders will influence the speed at which progress is made. Many countries are seeking to decarbonise their transport systems at speed, and international collaboration alongside a willingness to replicate successful enablers will be powerful tools in stimulating change.

We expect to revisit these commitments annually to ensure that progress is maintained and that newly emerging challenges are identified and addressed, and opportunities grasped. We will collectively assess what is required to enable the full spectrum of heavy and long distance HGV operations once those technologies have matured.

# Methodology of the Zero Emission Truck Taskforce

The Taskforce considered detailed papers on the makeup of the Scottish haulage sector; technology development, trials and supply; the energy infrastructure required; workforce upskilling; total costs of ownership; and new financial models developing to support zero emission vehicles. All papers and minutes are available at **Zero Emission Truck Taskforce | Taskforce meetings | Transport Scotland**.

> After this initial information gathering phase, working groups were set up comprising taskforce members and a wide range of industry specialists to identify the key actions required to embed zero emission HGVs in Scotland. The groups focused on the technical and commercial considerations required to unlock change around vehicles; charging and fuelling infrastructure; and skills.

# Zero Emission Truck Taskforce members

Members who chaired working groups are identified in bold and the Skills group was additionally chaired by Sally Gilson of the Road Haulage Association.

| | |
|---|---|
| Ballard Motive Solutions | Ben Todd |
| British Vehicle Rental and Leasing Association | **Catherine Bowen** (Energy infrastructure – electricity) |
| Hitachi-EU | Mike Nugent |
| Hydrogen Vehicle Systems | Daniel Musenga-Grant |
| Logistics UK | **Denise Beedell** (Energy infrastructure – electricity) |
| W H Malcolm Ltd | Gavin Summers |
| Menzies Distribution | Adam Purshall |
| NEoT Capital | Aurelien Achard |
| Road Haulage Association | **Chris Ashley** (Skills) |
| John G Russell | Ken Russell |
| ScottishPower | **Mark Griffin** (Energy infrastructure – hydrogen) |
| Scottish and Southern Electricity Networks | Shirley Robertson |
| Scottish Wholesale Association | Colin Smith |
| Society of Motor Manufacturers and Traders | **Sukky Choongh** (Vehicles) |
| Transport Scotland – Low Carbon Economy | Morna Cannon |
| Transport Scotland – Aviation, Maritime, Freight and Canals | Gary Cox |
| Unite the Union | Willie Thomson |
| Volvo Group | Neil Park |

# Acknowledgements

In addition to Taskforce members, the following organisations participated in working groups, were interviewed or otherwise contributed their time and knowledge – many thanks to all.

All photos provided by those involved with the Taskforce unless otherwise stated.

Co-op

DHL

Dunns Food and Drinks

Electra Trucks

Element2

Energy Skills Partnership

JW Filshill Ltd

Fleete

FOR:EV

GRIDSERVE

Hydrogen Accelerator

Institute of the Motor Industry

Motive Fuels

Renault Trucks

Scania

SESTRANS

Skills Development Scotland

Scottish Power Energy Networks

Scottish Hydrogen and Fuel Cell Association

TACTRANS

Truck Infrastructure Group

Volta Trucks

Zenobe

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