How to transition to an EV fleet while maintaining your pace of operations

Explore the elements that all fleet managers need to consider when looking for eMobility solutions that keep the wheels of their business turning as normal.

Shell Recharge

Driving efficient EV operations with the right eMobility ecosystem

The case for global decarbonisation is clear, and fleets of all sizes and types must adapt to this reality. Transport currently accounts for roughly a quarter (23%) of the world's annual greenhouse gas (GHG) emissions – with 69% of this total coming from road transport.[1] In response, governments are implementing and tightening emissions regulations. For example, the EU is looking to ban the sale and registration of internal combustion engine (ICE) vehicles from 2035, while original equipment manufacturers (OEMs) work to phase out ICE vehicles across each market.[2]

For fleets, electrification is a key solution – and a solution that is already delivering results. Electric car sales keep rising and could reach around 17 million in 2024, accounting for more than one in five cars sold worldwide. In the first quarter of 2024, electric car sales grew by around 25% compared with the first quarter of 2023.[3]

So, it is not a question of 'if' fleets transition to EVs. It is a question of 'when' and 'how'. Recent advances in both EV technology and infrastructure are addressing many of the initial barriers to adoption and building confidence among drivers. According to the **2024 Shell Recharge Driver Programme survey**, range confidence is significantly growing with over half of EV drivers across Europe (56%), China (73%) and the USA (69%) saying that they worry less about range than they did a year ago.[4]

However, fleet managers face one big question:
How do we switch to an electric fleet while maintaining the efficiency of our operations and meeting our targets?

From the vehicles themselves to the refuelling networks (spanning depots and public forecourts), fleets have their ICE operations set up to run as efficiently as possible. Understandably, fleet managers want to know they can maintain this with their EV fleets.

> **"Improved range confidence has become a gateway to a newfound freedom and EV drivers now feel empowered to explore new routes and destinations. The reduced range anxiety has transformed their overall experience, allowing them to focus on the joy of the journey."**
>
> **David Bunch, Global Executive Vice President of Shell Mobility**
> **2024 Shell Recharge Driver Programme Survey[4]**

They want to know how they can transition to EVs without impacting output or increasing costs. Focused on outcomes, fleet operators are looking to their suppliers to identify and deliver electrification solutions that take care of all the details.

At Shell, we help fleets make electrification and EV charging work for their specific business needs. We help them identify the best way to transition from the refuelling ecosystems they rely on for their ICE vehicles to charging infrastructure for their EVs. They must look at the day-to-day routine and routes of each vehicle they operate – all while accounting for the **different needs of heavy-duty vehicles (HDVs), light commercial vehicles (LCVs) and passenger cars** – whether they are ICEs, hybrids or EVs.

It is why Shell provides **end-to-end eMobility solutions** that can be tailored to the EV charging needs of each fleet type and business. We do this across all the locations where recharging might be required – including **public charging** stations that serve drivers while out on the road or private/semi-public charging facilities at **eDepots**. This helps them to make sure their EVs are charged and ready to go as needed by the business – and ready to embark on their routes from the most efficient starting point.

These solutions are supported by Shell's **Accelerate to Zero** programme, which helps fleet operators better understand how to reach their decarbonisation goals and how to take an integrated approach to delivering zero-emission operations.

In this paper, we take you through the key elements to consider when developing the right eMobility ecosystem for your fleet across three phases:
- Planning to build an EV fleet around your specific business needs
- Implementing eMobility solutions that fleets can trust
- Operating an EV fleet and charging ecosystem seamlessly

Discover the answers to the questions all fleet managers should be asking, along with the solutions that matter most to the future of your EV fleet.

ACCELERATE TO ZERO

What is Shell's Accelerate to Zero (A2Z)?

It's a programme that supports fleet managers and business decision-makers in their journey towards decarbonisation by offering an integrated, insights-based roadmap tailored to a fleet's specific business needs. Shell's A2Z is broken down into four phases: Diagnose, Build, Deploy and Realise.

Find out more: www.shell.com/a2z

Phase 1: Planning to build an EV fleet around your specific business needs

Building an EV fleet means replacing at least some of your vehicles. So, you need to find new ways to operate as efficiently with EVs as you do with ICE vehicles now. To do this effectively, you need an in-depth understanding of your specific business requirements **(including your types of vehicles and drivers' charging needs)** that enables you to create a plan for the eMobility ecosystem that best meets them.

Here are the questions you should be asking to make that happen:

How do we know which vehicles to electrify and when?

Not many fleets can make the switch to a 100% EV fleet in one go, so most are looking at a gradual transition. This means working out which of your vehicles you should electrify first – as well as how you can phase out your ICE vehicles in the move towards a fully electric fleet. It is also important to consider any constraints you face, such as the availability of EVs across each vehicle type. To manage your transition, you need to look at opportunities for progress at each step along the way.

How Shell can help:

- **Global fleet expertise:** Our team of Shell Fleet Solutions and Commercial Road Transport Account Managers offers guidance to fleets at every stage of their decarbonisation journey, providing necessary expertise and support.
- **EV suitability assessment (EVSA):** Shell provides an EVSA that can help to identify which of a fleet's LCVs and passenger cars are the best candidates for electrification based on real-world data.
- **Glidepath:** Shell's Decarbonisation Glidepath study can provide HDV operators with different projections of their fleet's carbon footprint over time. This enables them to assess the systemic challenges and costs of each scenario, helping them to decide which scenario suits their business needs best based on the data.
- **Shell Fleet Insights:** We also leverage the combined insights from telematics and Shell Card transaction data to help fleets accelerate their decarbonisation journey.
- **Consultancy services:** For complex decarbonisation processes, we offer consultancy services from carefully selected partners, such as Accenture and Deloitte, and in-house experts. This includes detailed case studies and carbon-reduction pathways for fleet managers.

Phase 1: Planning to build an EV fleet around your specific business needs

How do we invest in the charging infrastructure that meets our specific operational needs?

To maintain the efficiency of your current fleet operations, you need charging infrastructure designed to meet your specific EV charging needs. Your new infrastructure must be able to support whatever mix of vehicles you manage while giving you the ability to scale your solutions as needed on the journey towards a fully electric fleet.

Achieving this means working with a trusted supplier to match your new infrastructure to your business needs, now and in the future. Once you have a clear idea of which EVs you need for each route, you can explore what the 'right' infrastructure looks like – from power options (alternating current (AC) vs. direct current (DC) charging) to charge point location to the right type of connectors for your different vehicles. You also need to consider how you maintain your operations as you transform your eDepot.

How Shell can help:

Accelerate to Zero: Working alongside our consultancy partners, including Accenture and Deloitte, Shell helps fleets to understand their aims and build an eMobility plan as part of our Accelerate to Zero programme.

Bespoke solution design and engineering: Shell provides bespoke solution design and engineering for eDepot solutions, helping fleets to match their infrastructure to their charging needs. Our experts work closely with fleet managers to select the most appropriate charge points, their location within the eDepot and how they connect to a mix of vehicle types.

Energy management: Our energy management solutions allow fleets to manage their energy use across charging needs and other assets on sites helping to optimise the use of energy infrastructure and costs associated to it.

Hybrid Shell Card: We also help fleets to provide access to on-the-go charging solutions that complement their eDepot setup with the hybrid Shell Card.

Hybrid Shell Card:
Your one-stop shop for managing mobility expenses

The hybrid Shell Card combines EV charging, fuel purchases and other costs, making it easier to manage your mobility expenses.

- Access an on-the-go network of more than 750,000 public charge points for passenger cars and LCVs
- Access 4 dedicated HDV charging stations
- One consolidated invoice for fuel and EV charging transactions
- Integrated payment management for eDepot locations
- Reliable charging and contactless payment for EV charging through RFID technology
- Manage your electric vehicle fleet with spend velocities added for your electric charging sessions
- Optimise charging practices with data analytics through Shell Fleet Hub or Shell API integration

"In Malaysia, DHL Express has around 350 last-mile delivery vehicles, so decarbonising our fleet is a top priority. Through our collaboration with Shell, we are on our way. The Accelerate to Zero programme provides us with a roadmap of actionable recommendations, the charge points installed by Shell Fleet Solutions in our depot are vital for managing our EV fleet, and the Shell Card and Shell Fleet Hub facilitate better cash flow and operational insights. All of this makes us nimble and improves service quality."

Julian Neo, Managing Director, DHL Express Malaysia.

Phase 1: Planning to build an EV fleet around your specific business needs

How do we make sure that the switch from refuelling to recharging will not affect our operations?

Recreating your refuelling ecosystem for EV charging presents key operational challenges. This includes the need to absorb any additional time that charging can take. It is important to consider how you make sure your EVs are charged and ready to go when you need them, how you give your drivers the ability to charge reliably whenever they need to and how you reduce the overall total cost of ownership of your EV fleet.

Addressing these elements involves installing charge point hardware tailored to your vehicle types at your private depot locations. It also involves gaining access to a network of public charge points that allows you to operate similar routes (across different vehicle types: passenger cars, LCVs and/or HDVs) as efficiently as you do now. Beyond this, you need the ability to monitor your charging processes – enabling you to manage them effectively and spot opportunities for optimisation.

How Shell can help:

High-quality hardware: Shell helps fleets to identify and deliver a tailored mix of high-quality charge points at their private eDepot locations. We provide a range of reliable and efficient hardware, from charge points that offer up to 22kW to meet low power needs through to megawatt charging systems for high-speed, heavy-duty use. Our hardware is scalable, meaning fleets can add to and change their charging set-up as required when their power needs change. We also provide a flexible approach to setting up a fleet's private charging infrastructure, placing each element (including the charge points and the power terminal) in the best possible location at each eDepot, depending on what is needed at the site.

Data-driven software: Our charge point management system helps fleets to monitor, manage and optimise their charging practices across their private and semi-public locations. Fleet managers can identify the best times to charge for operational and cost efficiency while making sure their EVs are recharged and ready to go when needed. They can also manage their grid capacity across each location, ensuring the power needs of other on-site facilities such as factories and warehouses are prioritised.

Hybrid Shell Card: Adding to this, the hybrid Shell Card can provide data on charging practices across private, public and semi-public locations – helping fleet managers to optimise further. It also helps them to simplify payments across locations, combining each driver's mobility payments in one invoice.

On-the-go charging: We build on this ecosystem with on-the-go charging solutions, including more than 750,000 Shell-operated and third-party roaming public charge points designed for LCV and passenger car use across Europe. For HDVs, we provide 4 dedicated charging stations across three countries in Europe as part of a growing network.

Phase 1: Planning to build an EV fleet around your specific business needs

How do we make sure we have the energy we need to power our EV fleet and our facilities?

Moving towards a fully electric fleet will gradually increase your energy demand across your charging locations and facilities. This means you need to work out how much extra energy will be required to power your new charging infrastructure and when your energy needs will peak. Alongside understanding your new demand, it is important to understand how you can make sure your EV charging processes do not cut into the electricity needed by other facilities like factories and warehouses. Another element you also need to consider is how to connect your new infrastructure to the grid in the first place.

To deliver in this area, it is essential to work with an energy supplier who can help you to understand your current and future electricity needs then provide you with the energy, grid connection and energy management solutions to meet each location's requirements.

How Shell can help:

Energy management solutions: We can also provide on-site and off-site energy solutions for private charging locations (including 100% certified renewable energy), as well as grid connection support and energy management through our eDepot solutions and charge point management system.

Accelerate to Zero: Shell's experts can help fleets identify their energy needs for fleet electrification by analysing their business's data and insights as part of the Accelerate to Zero programme.

How do we bring drivers, customers and other internal stakeholders along on the journey?

You cannot create efficient EV charging processes without the buy-in of your key stakeholders – especially your drivers. Building a compelling business case for electrification with data insights that resonate with each audience is critical in gaining their support and their contribution to a charging ecosystem that runs as smoothly as your existing operations. This includes emphasising the positive impact switching to EVs can have on their roles. For example, two-thirds (67%) of drivers in Europe say the experience of driving an EV is so enjoyable it represents one of the main benefits of adopting the vehicles for them[4]. For fleet managers, it demonstrates that efficiency and cost are not the only elements that matter across their business.

How Shell can help:

Accelerate to Zero: As part of our Accelerate to Zero programme, Shell can help fleet managers build the EV transition business case by making sense of the data generated across their operations. Our experts and carefully selected consultancy partners, including Accenture and Deloitte, can also help fleets to manage the change to their operations – from maintaining efficiency during the transformation to ensuring drivers can make the most of the benefits of their fleet's new infrastructure. Alongside this, we work with fleet managers to connect with other areas of their businesses, building and maintaining their support before, during and after the transformation.

Hybrid Shell Card: With the hybrid Shell Card, we help fleet managers add to their business case with different internal stakeholders. It simplifies payments across all locations and fuel types, with one consolidated invoice for both fuel and EV charging transactions. Drivers also gain reliable access to charging solutions with contactless payment.

"Partnering with Shell Fleet Solutions for the Accelerate to Zero programme has supported G4S decarbonisation roadmap and targets. We operate a large fleet comprising a wide range of vehicle types and sizes. Shell Fleet Solutions are supporting us with our transition to hybrid and electric vehicles, via access to their extensive on-the-go charging network and by installing bespoke charge points at several of our sites. This will help us to ensure we're able to maximise uptime and manage efficient operations when using electric vehicles to support our customers, communities and operational teams."

Nigel Lockwood
Head of Government Affairs & ESG – International G4S, An Allied Universal® Company

Phase 2: Implementing eMobility solutions that fleets can trust

Once you have set a plan for the EV charging infrastructure your fleet needs, the next step is to implement it in a way that sets you up to deliver optimal performance. Here are the questions you should be asking to achieve this:

How do we electrify our depot locations?

As soon as you install a single charge point to help you manage a single EV, you have created an eDepot. However, there is a lot more to creating an eDepot that maintains your existing efficiency than simply installing charge points. To do this, you need solutions designed around your specific vehicle mix and operational requirements. You need high-quality charge point hardware and the software to manage it as effectively as possible. You need an electricity supply that can meet and manage demand across your charging locations while offering access to 100% renewable energy (should this be part of your decarbonisation ambition). And you need all this working together to deliver a seamless charging experience for your vehicles.

How Shell can help:

eDepot: Shell helps fleets to deliver eDepot solutions tailored to meet their needs and embed charging into their operations. Through bespoke solution design and engineering, we can help fleets to identify the right charging set-up for their current and future needs. We provide fleets with high-quality, fit-for-purpose charge point hardware designed to meet the needs of each eDepot location and all vehicle types. Our hardware comes packaged with our bespoke charge point management system, which gives fleets greater control over their EV charging infrastructure and the ability to manage it efficiently at scale. We can provide energy solutions to fleets for their eDepot locations, as well as grid connection support, grid capacity management and energy management solutions. We also help fleets to deliver high charge point uptime through support and maintenance services, providing preventive maintenance and prompt service to fix any issues.

eDepot+: For fleets looking to manage third-party use of their charging infrastructure, eDepot+ offers all the same eDepot solutions as well as the ability to make them accessible to known third parties through integrated payment and authorisation.

Semi-public eDepot: Offer private eDepot charging facilities with the additional benefit of being able to make them accessible to the public at specific times.

Case study: Delivering efficient eDepot solutions for Contargo

Shell worked with Contargo, a logistics company in Germany, to equip its 14 distinct terminals with a fully customised depot solution. This included a range of features such as integrated EV chargers, solar power, crane energy recuperation, specialised cooled containers, building energy, and real-time energy management. These additions ensured that energy distribution was efficient and energy loss was minimised.

Phase 2: Implementing eMobility solutions that fleets can trust

How do we optimise the utilisation of our charging infrastructure?

Optimising the utilisation of your charging infrastructure is essential in making your EV fleet as efficient as your existing ICE fleet – especially at your eDepot locations. However, it is not all about your own vehicles. Your business might need to support its third-party contractors, partners and customers with their charging needs when your private locations form part of their routes. Alternatively, your business might have periods where your eDepot is not fully utilised and could benefit from opening it up to public use. In either case, optimising the utilisation of your charging infrastructure can help to improve its total cost of ownership (TCO).

How Shell can help:

eDepot+: Shell can help fleets to optimise the utilisation of their infrastructure and facilitate easy payment management with our eDepot+ offer, that provides access to private charging locations for known third-party users. eDepot+ allows customers to open their private charging locations to specified groups of third parties (such as sub-contractors, suppliers and partners) through seamless, integrated payment and authorisation services. This means that the eDepot remains a private site, third-party drivers do not need to pay on site and the eDepot is reimbursed for these third-party charging costs.

Semi-Public eDepot: The Semi-Public eDepot provides providing public access to private charging locations during specific hours and offers as an addition to their existing eDepot solutions.

eDepot+ and Semi-Public solutions both offer fleets the ability to optimise their utilization.

How to optimise available grid power at each charging location?

Your new charging infrastructure could, at certain times, see you reach your capacity for drawing power from the grid. When this happens, you need the ability to manage the situation and make sure facilities like your offices are not affected. This means having energy management systems in place to automatically allocate power as needed. As well as protecting your core operations without the need for lots of manual work, effective energy management helps you to prioritise your EV charging processes and drive efficiency.

How Shell can help:

Charge point management system: Shell can help fleets manage their energy use across their facilities through our charge point management system, which enables smarter and more efficient charging processes.

Phase 2: Implementing eMobility solutions that fleets can trust

How do we reduce our upfront investment in new EV charging infrastructure?

Making the business case for charging infrastructure that meets your electrification needs – now and in the future – can be difficult when the investment required comes with a high upfront cost. Finding alternative ways to invest in the infrastructure you need can help to reduce that upfront outlay and manage the ongoing costs of operating your charging locations.

How Shell can help:

Energy-as-a-Service: Shell provides fleets with its Energy-as-a-Service offer*, which helps to facilitate electrification by removing the upfront cost and making it an operational one. This is where fleet operators can pay per usage, whilst we invest, own and operate your eDepot solutions for you – with your energy supply included.

* Only available for our eDepot and eDepot+ offers.

Energy contract from Shell: Shell provides an energy contract (with the opportunity to use 100% renewable energy), which gives fleets comprehensive coverage to help power entire sites. It also offers competitive rates and energy solutions (such as energy management) that ensure that private and semi-public charging locations are using their power as efficiently as possible.

How do we make sure our drivers can charge reliably while out on the road?

Just as your drivers have access to an extensive network of ICE refuelling stations now, you need to provide them with the same level of operational efficiency when moving to EVs. This means giving them access to a wide network of public charging stations while making it as easy as possible to find those locations whenever your drivers need to pull in and recharge. From your side, you also want to do this efficiently – in a way that avoids slowing your operations down with extra admin.

How Shell can help:

On-the-go charging: Shell provides a network of on-the-go charging solutions with access to more than 750,000 charge points including 38,000 Shell Recharge stations designed for LCV and passenger car use across Europe. This is supported by the Shell Recharge app, which makes it easier for drivers to locate available charge points that meet their vehicle's needs while out on the road. For HDVs, we provide four dedicated charging stations across four countries as part of a growing network.

Hybrid Shell Card: We help fleets of all types to manage their payments through the hybrid Shell Card, which gives drivers access to charging stations while covering their day-to-day mobility expenses all on one card. It also simplifies payment management for fleet managers with one consolidated invoice, while generating data on charging practices and needs that fleets can use to optimise their EV fleet operations.

Book & Charge: Our Book & Charge facilities make it easier for drivers to access charge points at the exact time they need them, helping them to travel their routes as efficiently as possible. An example of this in action is a pilot scheme at our Shell Eindhoven Acht multi-fuel station where we have installed four charge points for use by EV trucks. The Book & Charge system provides guaranteed charge point availability for drivers while allowing them flexibility over scheduling and rescheduling when they plan to stop and charge. They can also book recurring slots and secure high-demand time slots to reduce their vehicle downtime – all managed through a web portal.

Phase 3: Operating an EV fleet and charging ecosystem seamlessly

Once you have set a plan for the EV charging infrastructure your fleet needs, the next step is to implement it in a way that sets you up to deliver optimal performance. Here are the questions you should be asking to achieve this:

How do we adapt to the expansion of public charging networks over time?

As public charging networks grow and become more readily available, on-the-go charging will offer new opportunities for routing efficiency. To take advantage of these opportunities, you will need to maintain the best possible access to these networks – along with clear visibility of which charge points and stations offer the best availability and options for each vehicle type.

How Shell can help:

Hybrid Shell Card: Shell helps fleets to provide their drivers with access to an expanding on-the-go public charging network through the hybrid Shell Card, which also makes it simple for fleet managers to manage that access – along with any mobility expenses their drivers incur along the way. Shell continues to grow its Shell Recharge network both for passenger cars, LCVs and HDVs. Additionally we are constantly increasing the number of 3rd party roaming sites where the hybrid Shell Card is accepted.

Shell Recharge app: The Shell Recharge app makes it easy for drivers to locate public charge points that match their vehicle's charging needs, while Shell APIs allows you to integrate this within your own mobile app.

Case study: Meeting EV drivers' needs with Deloitte

Shell worked with Deloitte to better understand its professional fleet drivers needs and deliver high quality EV charging solutions across their office and home locations. This is all managed easily in one invoice using the hybrid Shell card. Combined with the Shell Recharge app, fleet drivers can easily locate nearby charge points, offering access to a growing public charging network.

Phase 3: Operating an EV fleet and charging ecosystem seamlessly

How do we continue to optimise our EV charging processes to improve operational efficiency?

Your EV charging processes will generate a vast amount of data that can help you to better understand your existing charging needs and to explore opportunities for optimisation. To fully explore these opportunities, you need the ability to make sense of that data – allowing you to identify actionable insights and make informed decisions that improve your overall efficiency.

How Shell can help:

Data management: Shell can help fleets to collect and connect data from across their EV fleet (covering vehicle data and payment card data) with solutions like the hybrid Shell Card and our Shell Fleet Insights platform. Through our Accelerate to Zero programme, we can also help fleets to improve their data-driven decision making by generating operational insights from the data they gather.

How do we make sure our investment applies to future changes in our fleet?

You want your charging infrastructure to be designed for the future, which means being ready for a range of changes that no one can easily predict. For example, as EV adoption grows, targets will become tighter to ensure low- to zero-carbon compliance. Similarly, with fewer businesses left to adopt EVs, there will be less reason for governments to offer subsidies and incentives, potentially changing the nature of your investment. Your eMobility ecosystem needs to be prepared for these changes – as well as advances in technology, such as the widespread adoption of MW charging for HDVs.

How Shell can help:

Accelerate to Zero: Through our Accelerate to Zero programme, Shell can help fleets to safeguard their investment by adapting their charging infrastructure and processes as needed. This, alongside our modular hardware solutions, provides fleet managers with peace of mind that the eMobility ecosystem they implement now will still be driving efficient EV operations in the years and decades to come.

Our end-to-end eMobility ecosystem

eDepot Charging for Operational and Delivery Fleets

Providing customised solution design, high- quality hardware designed for all vehicle types and maintenance services for LCV and HDV fleets – managed by a bespoke charge point management system for optimisation.

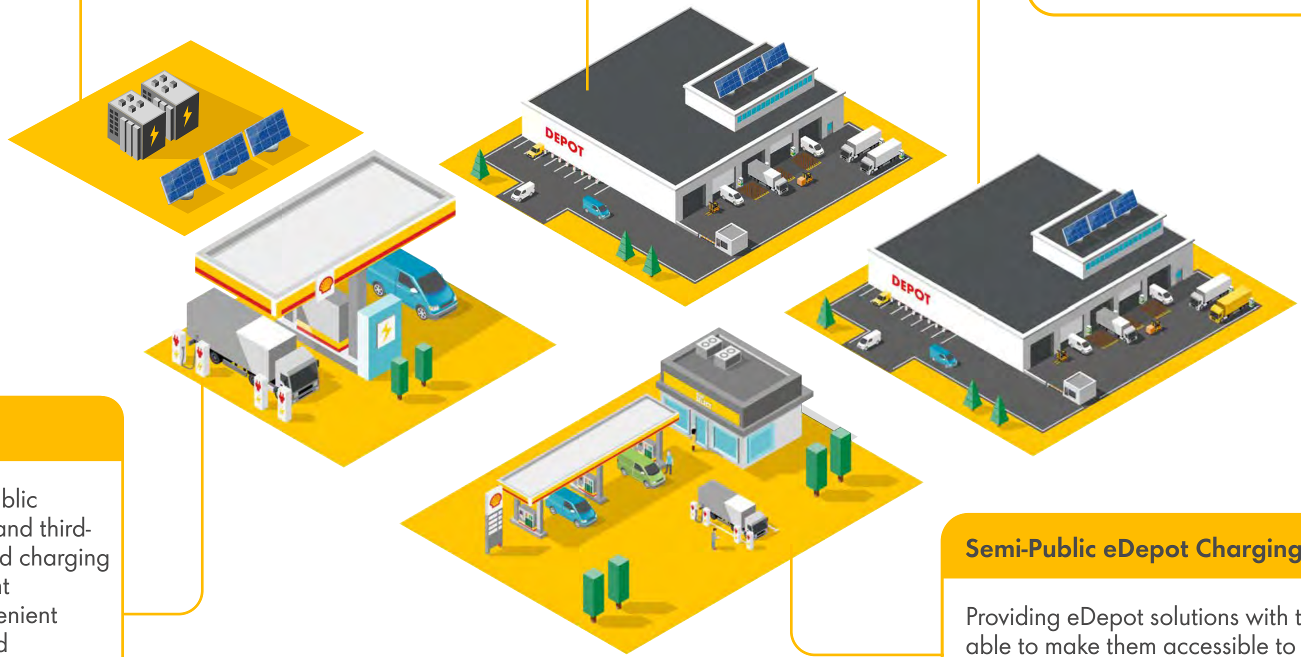
Onsite Energy Solutions

Providing innovative, reliable and cleaner energy solutions for businesses including 100% certified renewable electricity.

- Behind-the-meter renewable generation and storage solutions
- Building management systems

eDepot+ Charging with Access for Third Parties

Providing private eDepot solutions as well as the ability to offer access to known third-party sub-contractors, driving efficiency and maximising utilisation through integrated payment and authorisation.



On-The-Go Charging

Providing drivers with access to public charging via Shell Recharge sites and third-party roaming sites, including rapid charging on Shell forecourts, and convenient on-street charging. Easy and convenient payment via hybrid Shell Card and Shell Recharge app.

Semi-Public eDepot Charging for Optimal Utilisation

Providing eDepot solutions with the addition of being able to make them accessible to the public during specific hours, allowing businesses to optimise utilisation.

SHELL FLEET SOLUTIONS

SHELL COMMERCIAL ROAD TRANSPORT

Disclaimers

[1] United Nations Economic Commission for Europe (UNECE).
"United Nations adopts landmark global decarbonization strategy in transport by road, rail and inland waterway." 2024.
[2] FleetNews. "Combustion engines to be allowed post-2035 after e-fuels deal struck." 2023.
[3] IEA. "Executive Summary Global EV Outlook."2024.
[4] Shell. "Shell Recharge Driver Programme 2024." 2024.
The research was carried out with BEV or PHEV drivers and mainly focused on LCVs.

Find out more about how our end-to-end eMobility solutions can help you electrify your fleet while maintaining your operational efficiency:

www.shell.com/emobility