Hitachi ZeroCarbon

Prepare your fleet for an **electric future**

Aim Higher. Achieve Zero.

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Contents

Everyone's talking about *electrification*

No matter your business size, sector, or starting point, and whether you welcome the change or you're unsure what it means for your business, one thing's clear – the shift is already underway.

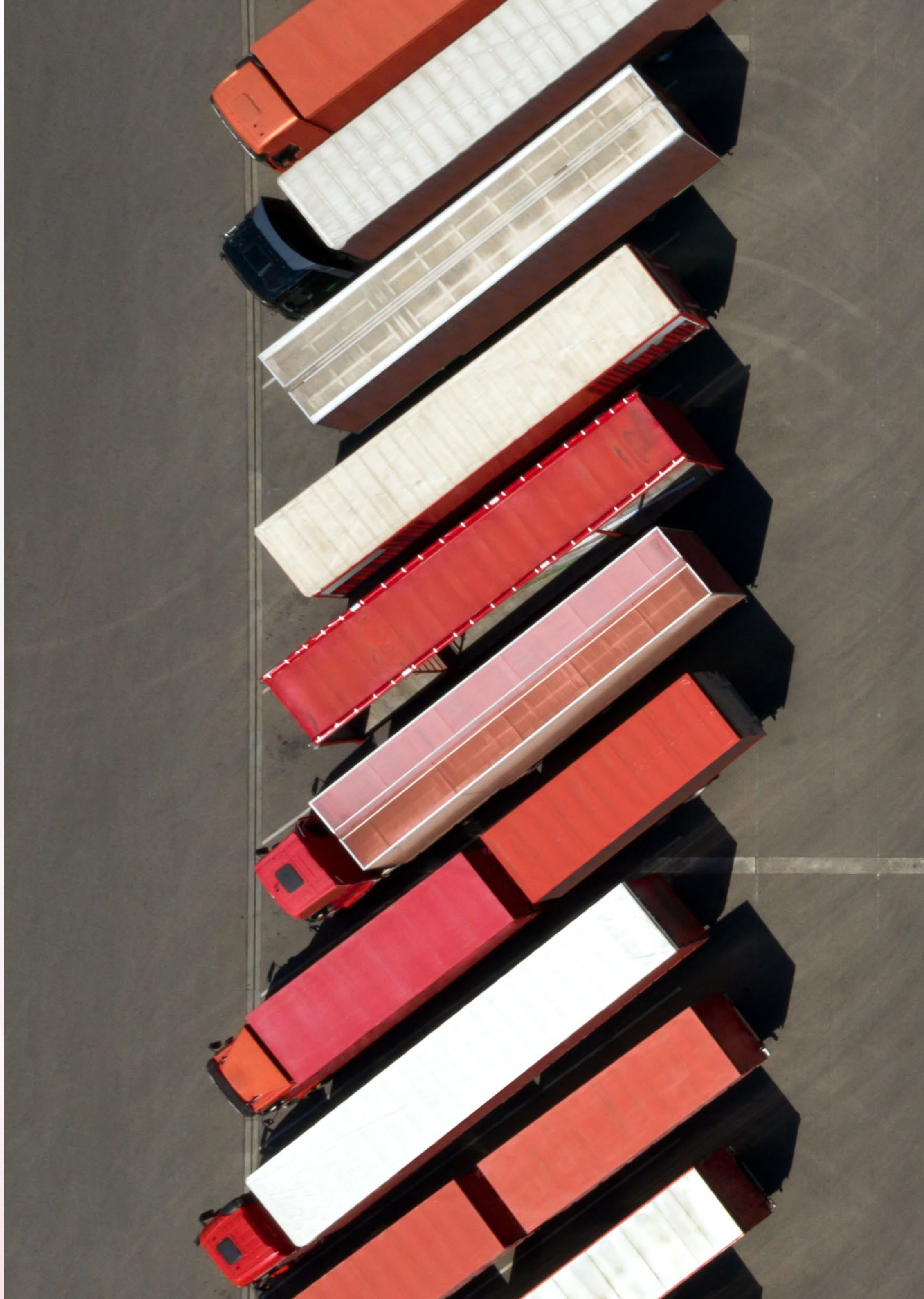
Maybe you've set decarbonization targets. Maybe you need to meet government targets. Or maybe you're just beginning to explore the switch to electric vehicles (EVs). Whatever stage you're at, the how isn't always obvious.

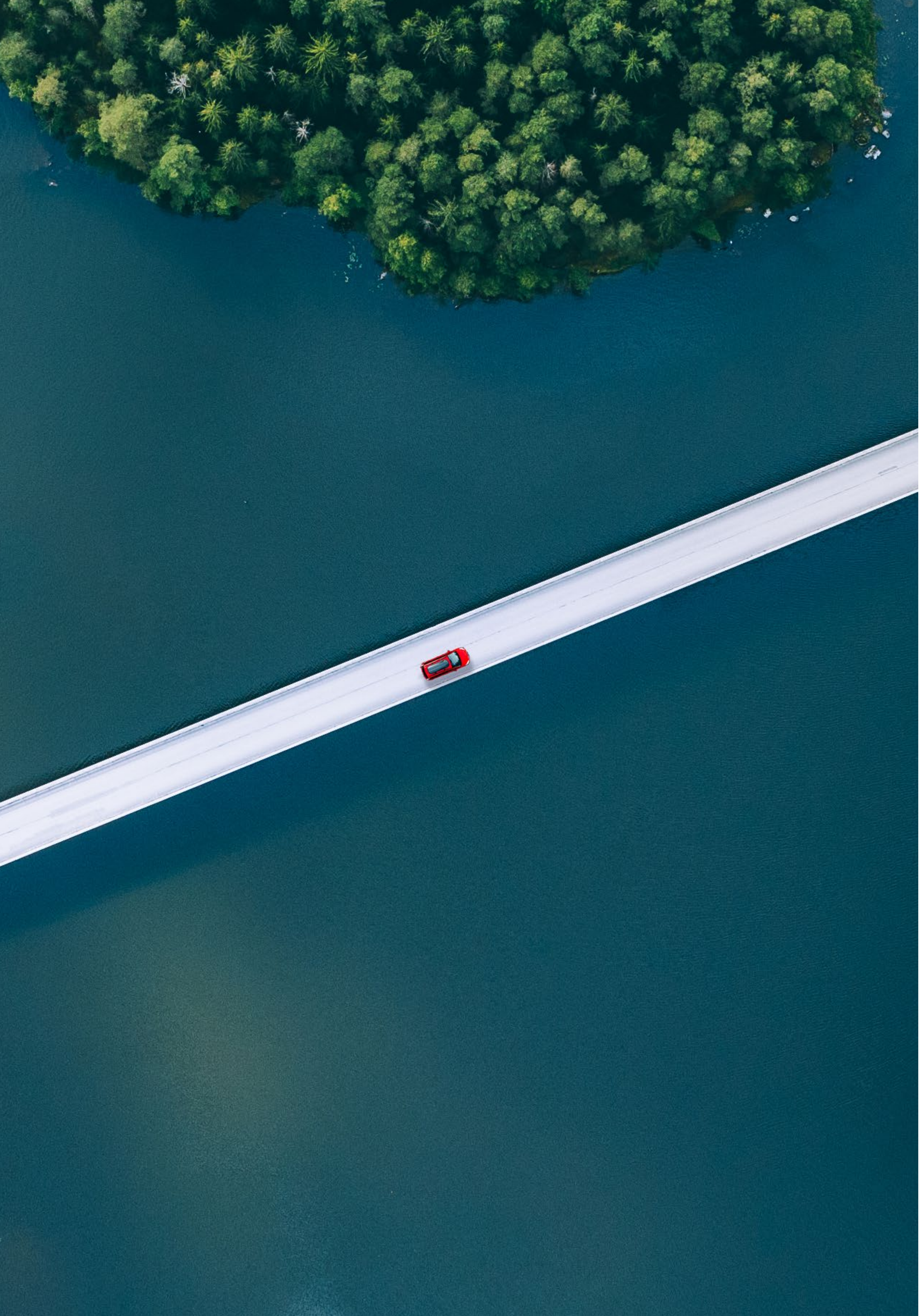
From our experience, no two electrification journeys are the same. Some businesses face pressure from the ground-up, grappling with fleet logistics. Others feel it at board level, navigating budgets, compliance, and company culture. And often, it's all of the above.

That's why we created this blueprint. It distils insight, expertise and experience from senior leaders at Hitachi ZeroCarbon into practical advice to help you cut through the complexity and approach your EV transition with confidence. Because electrifying your fleet might just be the next best opportunity for your business.

What's included:

- An overview of going electric
- Key considerations for your business
- Checklists and tips you can take away
- Success stories from our customers





Electrification is an *opportunity* to relish

If you're reading this, you're likely curious about how to tackle your EV fleet transition, what the process looks like, and how you can make it a success. Well, you're in the right place to find answers to your questions.

Many know Hitachi for consumer technology, energy, rail or financial services infrastructure. But for more than 115 years, one mission has tied all aspects of our business together; to contribute positively to society through the development and deployment of superior, original technology and products.

In this, we are passionate about driving innovation for the good of the world around us, and this extends to protecting our planet. And right now, we're pioneering the future of eMobility, helping global fleets leave diesel and petrol in the past, digitally connect their fleets and embrace full electrification.

It can be a daunting task. But it's a necessary one. The commercial transport industry accounts for around a quarter of global carbon emissions. Not only is this unsustainable, but it reflects an industry stalling in its progress - rather than pushing on.

The future of fleet requires digital solutions that benefit the operations, customers and the planet. But this requires a cultural and business change that cannot be rushed and can only be achieved by us working together to create a shared vision for the future of fleet.

Over the next decade, we believe industry growth will be irrevocably tied to the onset of digital solutions. Fleets will be cleaner, thanks to renewable energy connections, while they will be smarter and more efficient too. Managers will benefit from crystal clear visibility into the health and performance of their fleets, and to the wider revenue opportunities that accompany electrification. Petrol or diesel vehicles will be seen as legacy assets - unfit for modern commercial demands.

Fleet management, and fleet operations, will be unrecognizable in a decade's time, and that will show how far the industry has come.

As you will read, electrification is an opportunity to relish rather than a challenge to overcome. At the same time, we know that long-term growth, revenue and resiliency is all at stake. You need to be able to trust that your partner has walked this road before, and can anticipate your every need; right from the very start to your long-term goals.

With the Hitachi heritage behind us, we're here to help you, when you need us.

Mike Nugent
Chief Revenue Officer,
Hitachi ZeroCarbon

Chapter 01

A journey filled with *possibilities*

"I think you've got to look at this as an opportunity for your organization rather than just a challenge to be overcome. There are so many opportunities that electrification will bring."

Mike Nugent
Chief Revenue Officer

Decarbonization: where to begin? Well, leave that to us. While there are lots of factors to consider and going electric can feel like a whole new world, we're here to tell you that it can be a really exciting transformation for your business.

Here's what you could gain from going electric:

- Reduced carbon emissions
- Lower fleet operating costs
- Engaged, happier teams with a unified goal
- Smarter, data-driven decisions
- Future-ready infrastructure
- New streams of revenue

Initial concerns

First of all, we know that fleets of all sizes have plenty of very valid concerns. These can include:

- Will the vehicles work?
- What's their range?
- What types of batteries are there?
- Should I choose electric over other technologies, like hydrogen?
- What changes will we need to implement in our day-to-day?
- How much will it all cost?
- Is it worth waiting a bit longer for technology to evolve?

There's no off-the-shelf solution

We'd like to tell you that going electric is as simple as plugging in and pressing go. But the journey to decarbonization is as unique and challenging as each business itself. So our initial piece of advice is to not jump into buying a load of EVs as your first move – but to start small and test the water before you commit to anything bigger.

The reason is that electrification goes far beyond just the vehicles themselves, and you might find that trying to integrate them with your existing fleet and infrastructure isn't as straightforward as you think.

DID YOU KNOW?

Going electric isn't just about charging. You'll also need to consider:

- The capabilities of your EVs
- How stops and routes will evolve
- Changes to your current infrastructure
- Vehicle and battery health
- Overall costs across your business
- How to generate new revenue streams
- And more

The following steps look at how the journey to electrification works. Ready to get clued up?

First up: what's your *goal?*

> *"The most important thing is to have a plan. It matters less what the exact plan is; it's just having made a plan at all."*
>
> **Hugo Seymour**
> Head of Presales

It could be reducing emissions. Digitizing and future-proofing your operation. Or meeting sustainability targets. Whatever your main objective is, this will be your springboard for your electrification plan.

But it doesn't stop there. Transitioning to zero-emissions vehicles requires time, thought, and planning, as all of this will set you up for success.

Just get started

So you've given yourself 10 years to achieve your goal. That feels far away, right? Well, in the context of switching to electric vehicles, it can go very quickly. Fundamental changes to your business infrastructure can take a long time to implement, especially when you consider new ways of operating and the new technologies that will be introduced.

Here's our checklist to help you get going:

- **Create a clear goal:** an outline of where you are and where you want to go. We recommend doing this before anything else.
- **Ask why it matters:** identify why electrification has a place in your business. How could this impact what the future looks like?
- **Get leadership on board:** make sure key stakeholders are looped in. They'll all have things to say on their areas of the business.
- **Start considering how you'll do it:** could you manage everything yourselves? What organizations might you need to work with?

You might find that you don't have all the answers – and that's okay. But if you've thought about any of the points above, and have some idea of where you want to go, then you're ready to move on to the next stage.

The main approaches to going electric:

	Pros	Cons
Do-it-yourself	Everything will be managed by you, so you'll have full control, visibility, and flexibility	You'll need to be able to manage all of the complexities and risks of a brand new end-to-end system
Outsource	You'll hand over all responsibility for supplying and maintaining your electrification infrastructure, allowing you to focus on core fleet operations	The infrastructure provider may impose usage conditions that limit your operational flexibility
Partnerships	A provider will work in tandem with your team, giving you full visibility and control	Success is highly dependent on the right partner and transparent data sharing to inform decision-making

Aim Higher Achieve Zero

What's next for your fleet?

Electrification is more than a trend. It's a powerful shift in how businesses operate, cut costs, and lead on sustainability. Whether you're just starting out or scaling up, now's the time to prepare for what's ahead.

1 in 4

vehicles are set to be electric by 2035

United Kingdom
China
Singapore
Norway

are the leading markets for electrification

73%

of consumers say a brand's environmental impact is important

30%

of fleets are considering EVs due to rising fuel prices

Electric fleets will become the norm. You can get ahead by:

- ✓ Reviewing your current fleet and infrastructure
- ✓ Making a plan for the short and long-term
- ✓ Working with a trusted partner to set you up for success

"We'll sit down with you and understand where you are with your journey, what your goals are, and the steps you've already set. We can then define a strategy which will ultimately get you to your transition."

Douglas Cheung, Head of Energy Strategy

Going electric isn't just beneficial for the way your business operates. It can have a direct impact on customer behaviour and loyalty.

"It's not just about the installation, as important as that is. There's also a big educational and cultural shift involved, helping teams adapt to new ways of working."

Leon Clarke, Head of Operations and Delivery

"The most important thing is to have a plan. It matters less what the exact plan is; it's just having made a plan at all."

Hugo Seymour, Head of Presales

Hitachi ZeroCarbon operates globally, helping some of the world's leading private and public organizations transition their fleets.

"The future of fleet requires digital solutions that benefit the operations, customers and the planet."

Mike Nugent, Chief Revenue Officer

Cost savings are just one aspect of going electric. You'll also be able to reduce emissions, increase productivity, and manage your fleet with data and insights.

Source: Outlook for electric mobility, OEA *https://www.iea.org/reports/global-ev-outlook-2024/outlook-for-electric-mobility*

Source: Electrification rate of global fleets revealed in new study, Fleet News *https://www.fleetnews.co.uk/news/electrification-rate-of-global-fleets-revealed-in-new-study*

Source: The Benefits of Switching Your Commercial Fleet to Electric, Mer *https://uk.mer.eco/news/switching-fleet-commercial-electric-vehicles*

Source: Environmental impact a 'major concern' for fleets, Fleet News *https://www.fleetnews.co.uk/news/fleet-industry-news/2023/02/28/environmental-impact-a-major-concern-for-fleets*

Next stop: your *strategy*

A strategy will equip your business with an actionable plan that will ultimately get you to where you want to be. This might be over a fixed period, or it could be a rolling strategy that you revisit every year.

The main aim of your strategy should be to deliver the outcomes you want – lower emissions, better efficiency, cost savings – or whatever goals matter most to your organization.

Here are 5 steps for creating yours:

1. **Understand what you've got**
   Take stock of your current vehicles and how they're used. This will help you figure out where and how EVs could work.
2. **Work out what you'll need**
   Think practically: what types of EVs would suit your needs and help you meet your goals? What changes to fleet operations might you need? How could you charge them? And could your existing sites support the power you'll need?
3. **Build your business case**
   Getting buy-in from stakeholders across the business is key. An idea of upfront costs and savings is a good place to start.
4. **Get smart with your batteries**
   EVs are valuable assets – but so are their batteries. From smart charging infrastructure to software that monitors their health, think about how you'll keep them in top condition.
5. **Start small, then scale**
   As we mentioned, we recommend trying out a few electric vehicles first. This will help you identify and iron out any issues with vehicle performance before you roll them out more widely. When you are happy with vehicle operations, we can then help you scale up your infrastructure with confidence.
6. **BONUS TIP: Make it a team effort**
   From our Chief Technology Officer to our Chief Revenue Officer, everyone at Hitachi ZeroCarbon agrees that electrification isn't just a technology shift – it's a people shift. From IT to depot staff and drivers, getting buy-in across your organization is key as the people on the ground are the ones who will make your strategy work day-to-day. So the more you involve them, the smoother your transition should be.

Not sure where to start?

At Hitachi ZeroCarbon, we know it's not always straightforward to start electrification alone. We can help you work out a realistic strategy that not only delivers on business objectives, but also makes sure every area of your organization is happy. We'll create a **fingerprint of your fleet** that's unique to you – so we can deliver a roadmap to electric that's tailor-made and supported by best-in-class technology.

Our initial approach includes:

- On-the-ground visits to depots and offices to observe current operations
- Understanding the challenges of each team within your business
- Getting to grips with how your current infrastructure works
- Identifying target or market niches that we can turn into opportunities

Royal Mail

A data-led upgrade of depot infrastructure and power requirements that helped Royal Mail plan for a scalable EV rollout to meet their environmental goals.

20% Fewer emissions per parcel

25% Reduction in overall carbon footprint

60% Drop in fleet energy costs

Posten Bring

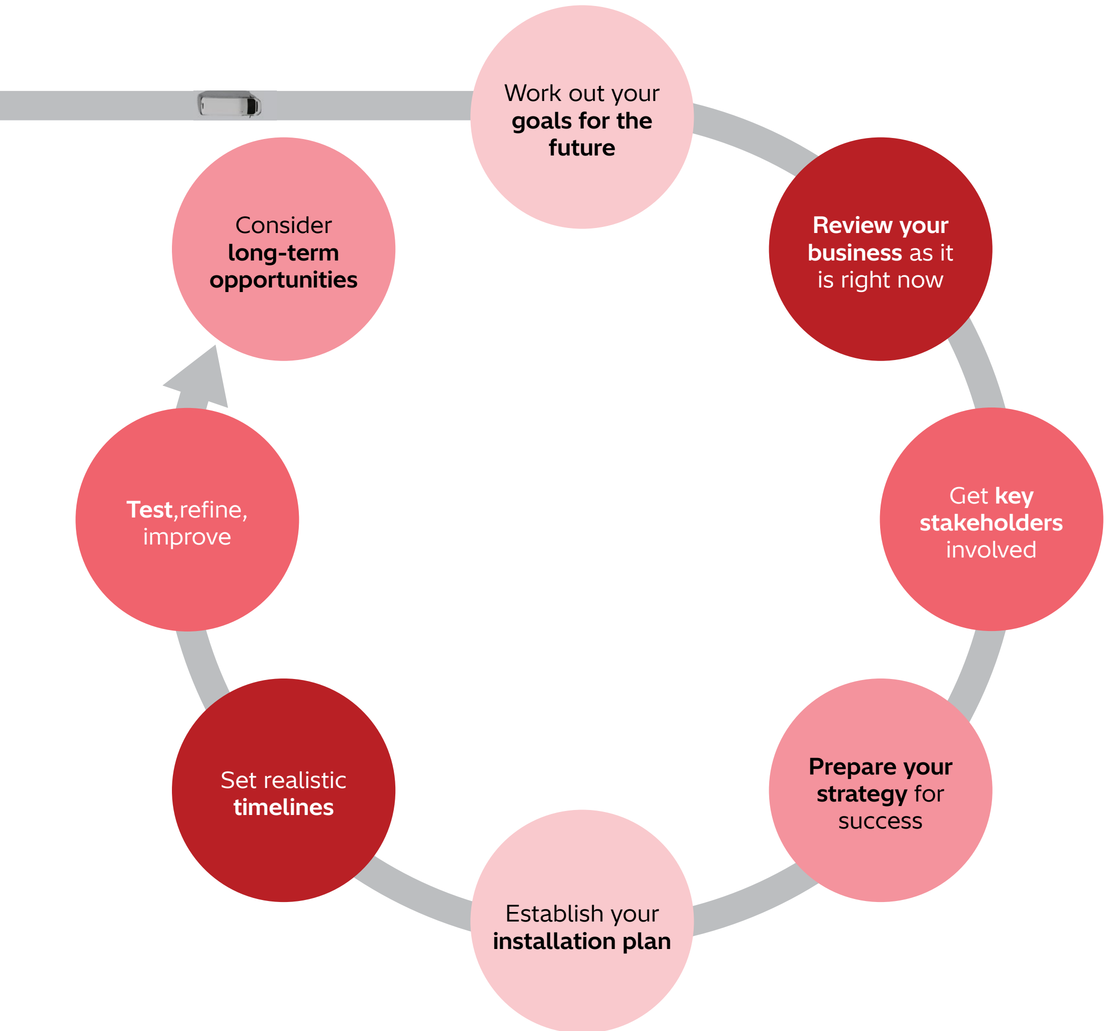
A strategy that optimized charging infrastructure to help Posten Bring scale EV adoption across the Nordics and progress towards their fossil-free goal.

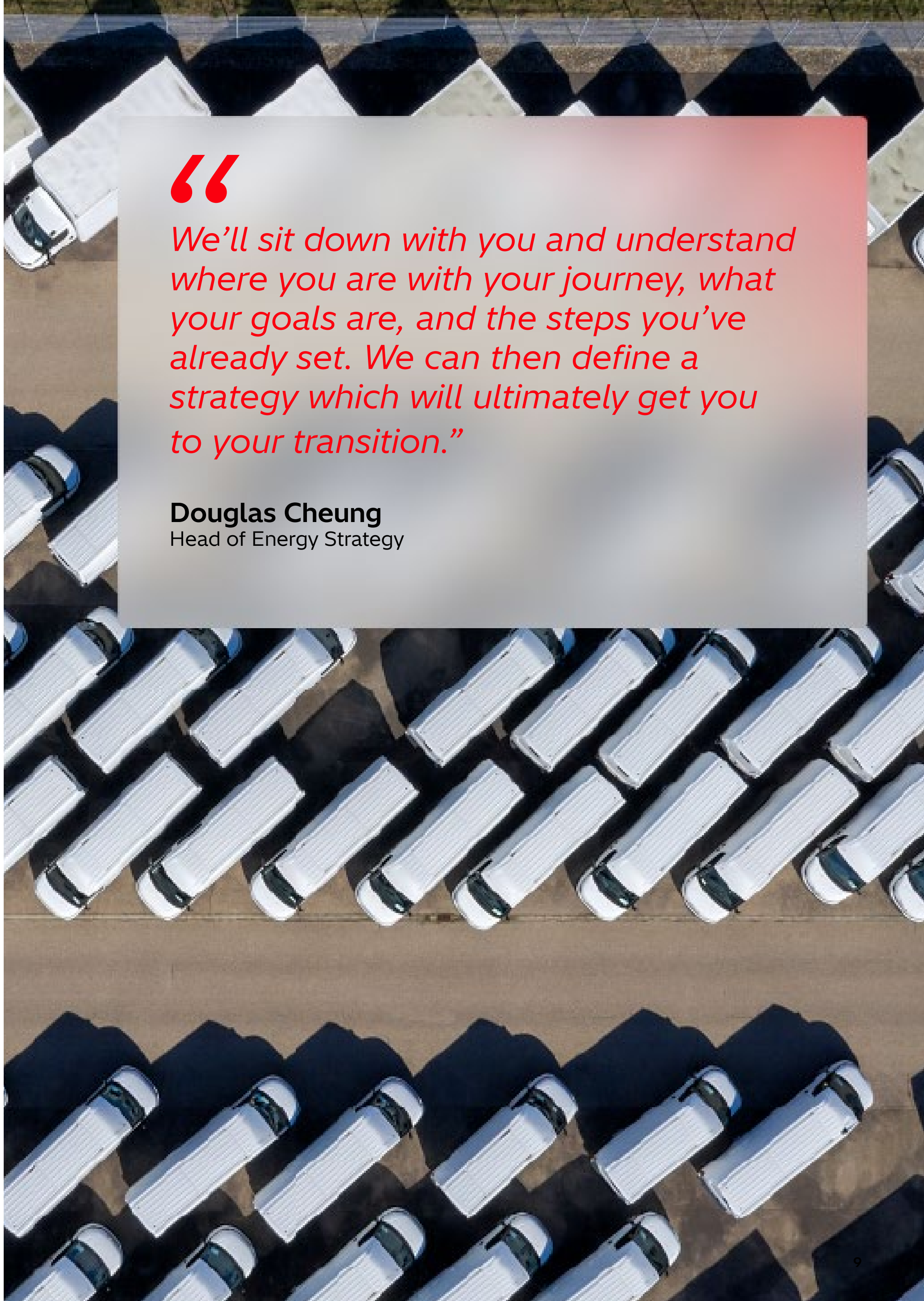
51% Reduction in CO_2 emissions since 2012

100% Of vans to be carbon-free by 2040

80% Of trucks to be carbon-free by 2040

Journey to *electrification*





"We'll sit down with you and understand where you are with your journey, what your goals are, and the steps you've already set. We can then define a strategy which will ultimately get you to your transition."

Douglas Cheung
Head of Energy Strategy

Time for *installation*

Now for the tricky part. How do you make it all come together? And with charging infrastructure for EVs developing all the time, what's the best way to ensure you stay ahead of developments and with hardware that won't age quickly?

The truth is, EV ecosystems are still evolving and this means that different vehicles, chargers, software, and infrastructure don't always work together seamlessly – yet. With the right expertise on your side, you can build a system that works for your business now and in the future.

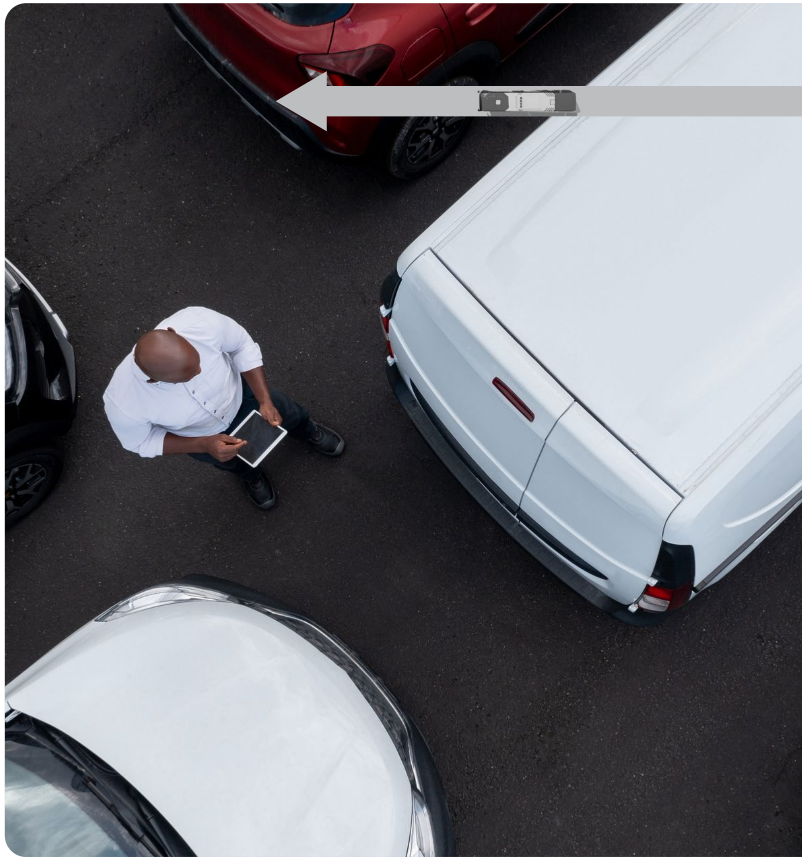
Setting you up for success

Earlier, we mentioned the three possible ways you could decarbonize your fleet and business. At Hitachi ZeroCarbon, we offer a partnership model where we work in synergy with your teams to bring all the technical elements and know-how you need together. What makes our approach different is that it's rooted in transparency, giving you access to real-time data on charging and battery performance so that you can make smarter, faster decisions.

Once you have your strategy in place, here's how we'd usually approach installation (hint: it's not just about plugging in).

1. **Site audit**
   We check what's already in place, from your existing electrical infrastructure to vehicle types, charger models, and depot layouts.
2. **Smart energy planning**
   We factor in future needs such as additional renewable infrastructure (including solar panels), energy upgrades and connections, on-site storage, or expanding your fleet – and plan your setup to grow with you.
3. **Compatibility check**
   We make sure that your technology works together. Different chargers, vehicles, and systems? We test everything to ensure success (and we're hardware and software-agnostic, so we can work with any existing infrastructure).
4. **Team training and culture**
   We become an extension of your operations team, training your people on our tools and solutions, sharing data-led insights to optimize your charging setup, and making sure your fleet stays ready for the road.
5. **Software setup**
   We configure your site's digital tools to safely and efficiently manage charging in-line with your routes, energy limits, and operations.
6. **Tariff and cost optimization**
   We lower energy bills by syncing charging with real-time energy prices, avoiding high-demand surges and making smart use of your tariff.
7. **Ongoing support**
   We don't install then bid you farewell. Whether new technologies, tariff changes, or evolving operational needs come your way, we'll help you stay resilient, minimize costs, and adapt confidently.

The key thing to know is that electrification doesn't end with installation. This is just the beginning for your business – and our final step walks you through how you can maximize opportunities once you're up and running.



> *"It's not just about the installation, as important as that is. There's also a big educational and cultural shift involved, helping teams adapt to new ways of working."*

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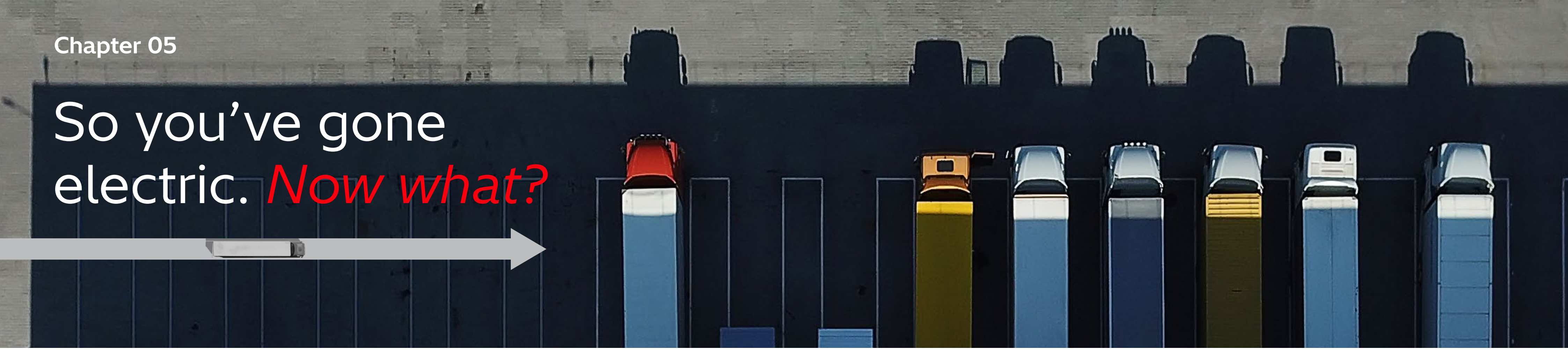


So you've gone electric. *Now what?*

With so much time, resource, and energy going into your transition to EVs, the post-installation period can leave you wondering what's next. We've mentioned that decarbonization is about more than just going electric. But when it comes to thinking about the long term, what are the kinds of things you should be putting on your radar? The points below are a good place to start.

Keep things running smoothly

The aim of the game is to make sure your vehicles are always charged up and ready to go, and that any kinks in the road are dealt with quickly and efficiently.

Use your data

We see data as crucial for unlocking value in your strategy, optimizing your day-to-day operations, and maximizing energy usage and revenue opportunities.

Refine your strategy

Try seeing it as a living entity that adapts with your business for a number of reasons, such as changes in priorities, driver feedback, or developments in technology.

Identify new revenue streams

Such as leasing your charging infrastructure to smaller fleets, utilizing stored battery power, or supporting electricity networks by balancing the grid.

Why Hitachi ZeroCarbon?

As a trusted partner for electrification, we'd keep all of this in mind anyway – and more. With vast engineering and electrical expertise behind us as part of the Hitachi family, we're always thinking one step ahead on long-term opportunities for our customers while ensuring everything works seamlessly, efficiently, and reliably. Most importantly, we bring flexibility to the table. Something that worked five years ago might not necessarily work now – so we want to make sure you know the options available to you, helping you tweak your strategy for optimal success going forward.

What happens when a battery reaches the end of its life

The good news is that EV batteries don't stop delivering value once they're off the road. With the right approach, they can keep working for your business through multiple lifecycles.

First life: Maximizing their performance while they're active in your vehicles is key. We'll arm you with the data tools you need to help you optimize their efficiency and extend their life.

Second life: Fun fact: if they're looked after well, EV batteries can still have over 80% of their capacity left at the end of the warranty period, meaning you can run your vehicles for longer. When the batteries are eventually no longer fit for vehicle use, they can be retired to store power, support buildings, or balance the electricity grid.

Third life: Once your batteries no longer hold charge, their valuable components such as lithium and cobalt can be reclaimed for the next generation of tech.

> *"At any point in time, you can revisit the options available to you. We help our customers make the best decision they can based on their operational, financial, and technical constraints at the time."*

Jim Donaldson
Chief Technology Officer

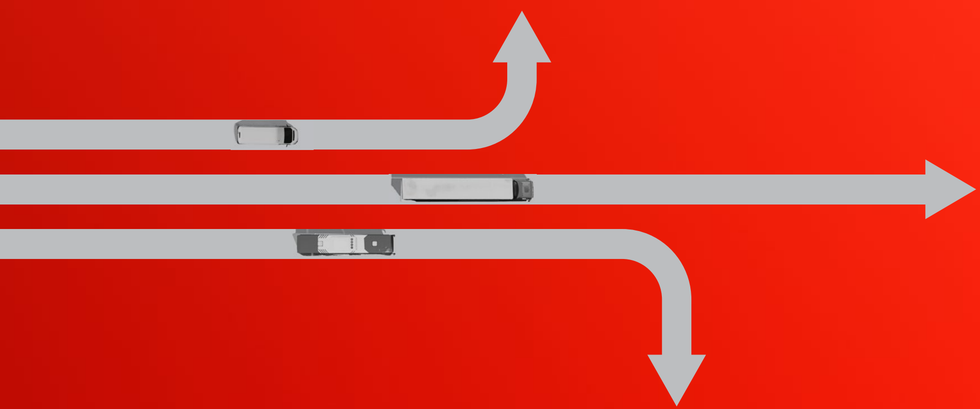
3 top tips for your *transition*

Working with a partner who is clued up on how to get the most out of your new EV assets could be one of the best decisions you make that goes beyond installation.

Mike Nugent, our Chief Revenue Officer, shares his advice for anyone thinking of transitioning to EVs:

1. **Consider your long-term energy strategy** rather than thinking of decarbonization as a simple transition process.
2. **Try to see it as an opportunity for your organization** rather than just a challenge to overcome.
3. **Think of your batteries as valuable assets that can unlock new opportunities,** both while they're in use and beyond, creating entirely new revenue streams for your business.

Your journey to decarbonization starts *here*



Making tomorrow *possible*

Electrifying your fleet is a huge transition for the way your business works and everyone involved. But with the right support and plan in place, it can open up exciting opportunities while future-proofing your fleet.

If you'd like to start a conversation with us or are looking for more information, follow the link below.

Find out more

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