

Case study

# Fossil-free driving for a sustainable future

How Vattenfall is electrifying its own fleet



**VATTENFALL**



# Practising what we preach

## Vattenfall

Vattenfall is a progressive Swedish energy company with sustainability at its core. Across northern Europe we provide low carbon heat, energy, network and transport solutions that support a climate-smarter way of life. Our goal is to make fossil free living possible within one generation.

In 2017, we pledged to replace all our 4,500 vehicles with electric alternatives by 2030. We are now in the process of gradually electrifying our fleet.

This case study is unusual because it's not about what we've done for our customers; it's about what we're doing for ourselves. Its purpose is to introduce how we've gone about the transition to electric alternatives and to give you some ideas on how your fleet could transition too.

“At Vattenfall, our purpose is to help our customers to live free from fossil fuel within one generation. We think that electrification of transport will play a significant role in the transition towards a low-carbon society and improve air quality in cities. Being one of Europe's leading energy companies, we must become fossil free ourselves to succeed.”

Annika Ramsköld, Vattenfall Head of Sustainability

## The challenge

We own and lease 4,500 vehicles, ranging from benefit passenger vehicles (BPVs) also called benefit company cars to commercial passenger vehicles (CPVs) which include branded cars for sales teams and technicians and light commercial vehicles (LCVs) such as technical support vehicles and maintenance vans.

We're replacing all these vehicles with electric alternatives by 2030, although the development of the market for electric vehicles (EVs) will be crucial to meeting this ambition. As an energy producer with a large fleet, it's important to not only get EVs but also to build an appropriate EV charging infrastructure. Incidentally, this will also benefit our employees because we offer charging on site for their personal vehicles. This incentive will help the uptake of electric driving among our employees.

“With the decision to electrify our fleet, we not only contribute to reducing CO2-emissions in Europe, we also set an example for other companies. We work with our customers to deploy charging infrastructure and are building northern Europe's biggest connected charging network, InCharge.”

Magnus Hall, Vattenfall CEO



We have 4500 vehicles and have committed to switch to an electric fleet by 2030.



Our fleet is made of mainly passenger cars and light commercial vehicles.



We are building an EV charging infrastructure to accommodate our electric fleet.



# Fleet challenges and processes

## To achieve our target, these are the common challenges we face:

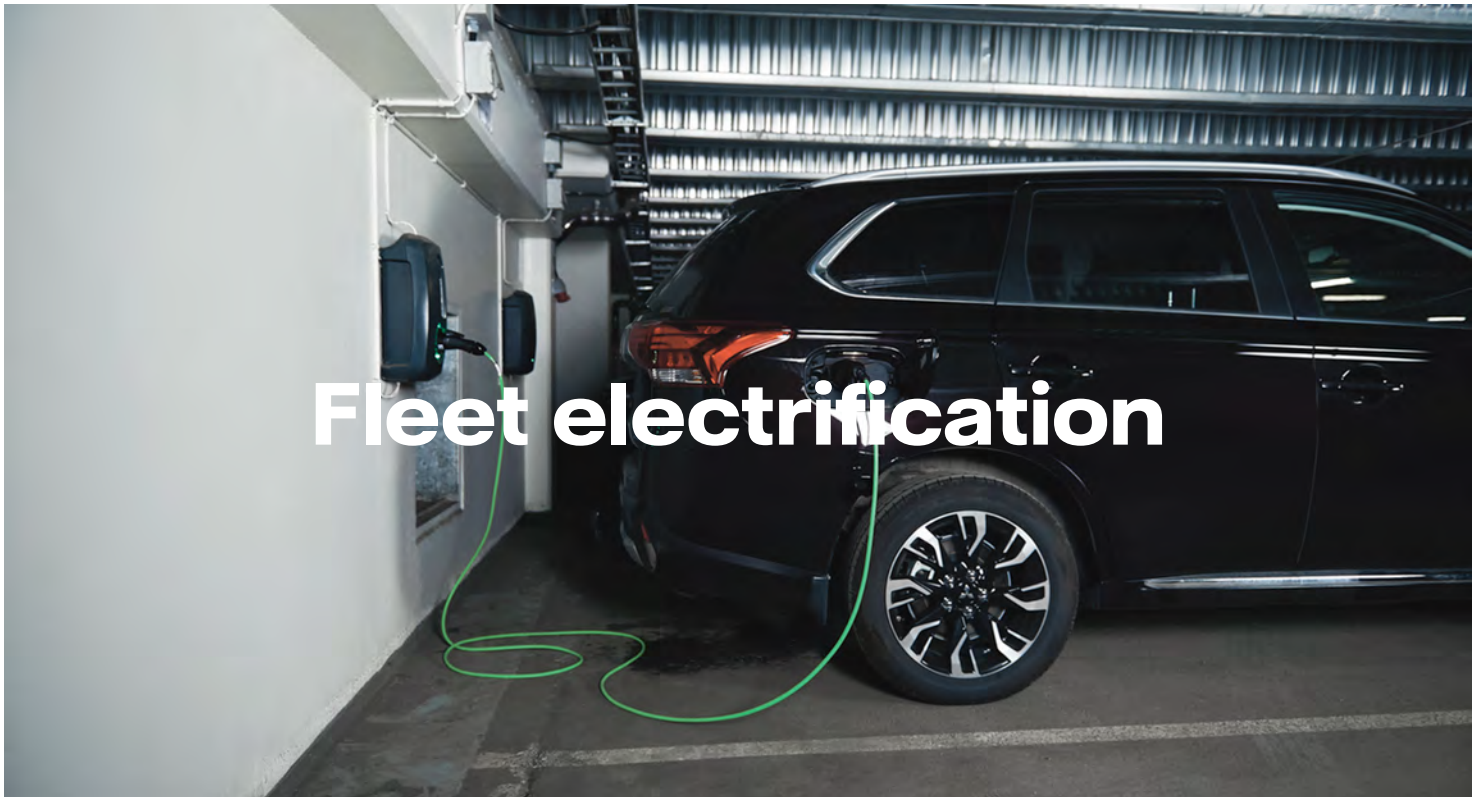
- **Electric vans and large utility vehicle options are limited.** Stricter CO<sub>2</sub>-emission standards on an EU-level would help give car manufacturers confidence that the development of electric vehicles is the true way forward, hopefully resulting in market growth and a wider range of vehicles at lower prices.
- **Ordering process:** There is a long waiting list for some models to be delivered which can impact the timeline of our switchover.
- **Range anxiety:** It's vital to develop an understanding of driving patterns and vehicle usage. We've analysed historic data to better predict future driving patterns and define what can be done to reduce range anxiety.
- **EV charging:** We have to make sure we're building the right EV charging infrastructure and have the right grid capacity for the new charge points.
- **Change management:** Drivers' behaviour must change from going to a petrol station to refuel, to charging cars at work, at home or wherever possible. We must promote and encourage the uptake of electric driving.
- **Rental vs fully owned locations:** We can upgrade the grid and install charge points at locations we own. But where we only rent, infrastructure development depends on landlords agreeing to it.
- **Leasing terms and leasing structures** (operational and financial lease) differ per country. We have to localise our fleet electrification strategy and allow for current lease contracts to end before we specify our new requirements.
- **Budget:** Electric vehicles still require a relatively high financial investment, although the trend is that these costs are reducing. We favour leasing over buying new vehicles.

## How Vattenfall is electrifying its fleet

Our board of directors meets to discuss the fleet strategy and invites in employees from the departments most affected to discuss fleet electrification progress and potential road blocks and solutions. The first step was to look at numbers: how many EVs will we lease/acquire and how many charge points will we need? The next step is to progressively implement the changes.

## Implementation phase

The management team together with the fleet operating department, electric mobility business unit and other key departments are involved in defining the implementation process. Implementation needs to include and inspire the employees using the vehicles. For LCVs we are in the process of partnering up with some vehicle manufacturers to execute pilot studies. We started this process in April 2018, when we invited several car manufacturers to our Vendor Days event to learn more about new technologies and what kind of car models we can expect to become available to the market in the mid-term.



# Fleet electrification

## Fleet conversion and EV charging infrastructure

We've adopted a specific policy for passenger vehicles (BPVs/CPVs) and are now doing the same for our LCVs where we're gradually replacing traditional internal combustion vehicles with full battery electric vehicles (BEVs) and plug-in electric hybrid vehicles (PHEVs). Our goal in the next year is to accelerate electrifying the BPV part of the fleet to meet our 2023 interim target.

"Vattenfall's new policy means that all new passenger vehicles should be electric unless business harm can be clearly demonstrated. We want to start this now to avoid lock-in effects because of the rather long lease periods which could keep us from meeting Vattenfall's ambition."

Pieter Dumas, Project Manager for Vattenfall's Fleet electrification programme

Currently, we have over 1,000 charge points installed at our premises but to enable the transition, the need for charging infrastructure is being further assessed and we'll be installing additional charge points at Vattenfall locations over the next few years. Also EV charging needs to be completely hassle free, which is why we're continually developing our charging solutions, not only for ourselves but for our customers too.



## The benefits of switching to an EV fleet

- Cheaper fuel
- Fewer maintenance needs which reduces maintenance costs
- Tackle climate change
- Improve air quality
- Help meet CSR commitments and policies
- Help meet regulatory obligations in relation to greenhouse gas emissions
- Enhance sustainable brand recognition: Show stakeholders and members of the public a genuine commitment to a more sustainable future
- Attract and retain skilled workers by offering them EV charging and demonstrating leadership in sustainability



# Results

## Our results so far

- As of mid-2019, we've electrified 15 per cent of our total fleet.
- In Sweden, nearly 82% of our BPV fleet has transitioned to electric alternatives as well as 37% in Germany and 30% in the Netherlands. Overall 38% of our BPV fleet has been electrified.
- We promote the switch to electric company cars: users of full electric vehicles get an allowance to rent a fossil fuel vehicle for their holiday trips. In the Netherlands, we ran a promotion offering employees to terminate their current lease contracts early by switching to an EV.
- Once employees order an electric car, we support the idea to install a charging station at their residence, e.g. in some instance, by co-financing the installation of home charging points.
- Employees are feeling more confident about ordering an EV knowing they can charge at work as well as at home.
- We have electrified about 5% of LCVs in Sweden, Germany and the Netherlands. Urban areas are where we have made the biggest progress in changing to eLCVs so far (where range is not a restriction factor).
- To set the e-LCV project in motion, Vattenfall invited LCVs car manufacturers to its offices to discuss what the possibilities are regarding the transformation to e-LCV i.e. to identify who can provide us with an immediate solution, and look at future partnerships including solutions for remote areas.
- In the Netherlands, we have started using eLCVs for ranges up to 130 kilometers.
- For Vattenfall's overall operations, we developed a roadmap to reduce CO2 emissions by 75% until 2030 and allow Vattenfall to become climate neutral in all our operations before 2050. By electrifying our fleet, we are making a positive impact on the environment by reducing our CO2 emissions.

# 82%

of our BPV fleet is electric in Sweden

# 132kms

the range our e-LCVs can drive up to

# 75%

The amount of CO2 emissions we are aiming to reduce



# Making EVs the new normal

We've been active in EV charging since 2009 and have invested heavily in electric transport because of its huge potential to contribute to energy transition and the reduction of CO2 emissions.

We aim to make electric driving the new normal in Europe. Vattenfall offers the full-suite of solutions needed for an electric vehicle: Charging at home, at work, at business and through its investments in public charging and roaming agreements, easy and affordable access to an international public network of charge points. Vattenfall operates 14.500 charge points and is, together with local authorities and business partners, building InCharge, one of the biggest charging networks in Northern Europe.

EU Member States and the EU Parliament have already agreed that transport emissions should be reduced by 60 per cent by 2050. Vattenfall supports the move towards zero emission transport, but we emphasize that steps have to be taken to turn the EU-strategy into concrete policies and actions.

We're a member of EV 100 (part of the non-profit organisation Climate Group), a global initiative bringing together companies committed to accelerating the transition to electric vehicles. We're joining forces with global companies to get the fleet electrification message out in a powerful way and accelerate the uptake.

“Electric vehicles are crucial for addressing both climate change and air pollution, and businesses have a huge role to play in driving the transition. It is great to see ambitious companies like Vattenfall leading the way. As a member of EV100, Vattenfall is not only showing great leadership in its own operations, but joining a global movement that demonstrates the rapidly growing business case for electrification and inspiring companies around the world to follow suit”.

Sandra Roling, Head of EV100

Vattenfall is also a member of the EV30@30 campaign, which aims to speed up the deployment of electric vehicles and target at least 30 percent new electric vehicle sales by 2030. The EV30@30 campaign is organised by the CEM-Electric Vehicles Initiative (EVI), coordinated by the International Energy Agency (IEA) and supported by pledges of governments, cities, associations and companies.

## **Towards a fossil-free future**

As well as electrifying our fleet, we're helping to build a robust charging infrastructure in Europe, which will not only speed the transition to electric vehicles but also tackle climate change and poor air quality.

Electrifying a fleet comes with its challenges, but in the long term, driving electric is far cheaper than driving on fossil fuels. The trend towards more affordable batteries with a wider range of vehicles is already established, which is why we believe now is the right time to make this change.



## About us

Vattenfall is a Swedish state-owned utility and leading supplier of wind generated electricity to the UK. Across Europe, Vattenfall provides heat, energy, network and transport solutions that support a climate-smarter way of life. For example, we often integrate electricity and heat infrastructure to minimise carbon emissions. After a decade of investment in the UK, we now deliver more than 1GW of renewable electricity capacity to power British homes and businesses.

InCharge is an initiative by Vattenfall. We provide charge points to homeowners, businesses and local authorities across Europe. Our vast experience in northern Europe, particularly the Netherlands and Sweden, allows us to reproduce successful projects in the UK.

We offer an end-to-end service for fleets. To find out more about our solutions and the benefits of choosing us read our [EV charging solutions for fleet brochure](#).

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