

EV Cars-Carrefour: Developing a Sustainable Model for EV Charging Networks

case study

Best for...

- Establishing a Collaborative EV Charging Partnership
- Pioneering Senior Debt Financing for an EV Project
- Identifying and Addressing Risks Strategically
- Harnessing Data for Enhanced Service Delivery
- Amplifying Environmental Contributions
- Generating Sustainable Social Advantages



The motivation to move to electric vehicles is pressing and undeniable. Transport accounts for an estimated 37% of global CO² emissions¹, with road travel the largest proportion of the total, according to the International Energy Agency.

Countries around the globe have set deadlines on the production of new internal combustion engine vehicles that run on petrol or diesel. The whole of EU has banned the sale of new combustion engine cars by 2035.

Governments have been laying down further laws to propel the shift. For example, France passed the Loi d'Orientation des Mobilités (LOM) in 2019 which specified that carparks must have 5% of charging spaces for electric vehicles.

Yet, while there is political motivation and a climate imperative, much of the infrastructure still needs to be constructed. France has the second-largest EV charging capacity in Europe, having recently passed 100,000 public chargers, representing roughly one charger per 6.5 electric cars on the road². However, with 39 million registered cars on the road across the country³, many more facilities need to be developed to accommodate the transition.

The scenario presents a compelling long-term infrastructure investment opportunity, but there are challenges to overcome. As a new investment class, risks need to be fully understood and partnerships need to be clearly aligned with land owners and operators. However, doing so can help unlock senior financing that can drive more cost-effective and rapid deployment of charging infrastructure to meet ambitious climate and mobility targets.



Through Meridiam's understanding of infrastructure investment and financing, Allego's experience in EV charging, and Carrefour's retail and loyalty expertise, we were able to **build a partnership that can accelerate the rollout of charging infrastructure** to support the transition to electric vehicles"

Jean Gadrat, CEO EV Cars

Carrefour EV Cars Partnership Facts

- Deploying almost 2,000 charging points by mid-2024
- 210 supermarket sites across France
- 22kW "comfort" charging with 1 hour free per day to Carrefour Loyalty customers
- 75-350kW fast and ultra-fast charging available
- Free charging for soft mobility, including e-bikes and e-scooters

EV Cars Investment Details

- First EV charging investment in France to secure senior debt financing
- Financial close November 2021
- €135 million total capex
- 40% debt from 6 lenders, 60% equity from Meridiam Europe III
- €20 million pre-close deployment from Meridiam to de-risk investment for lenders

¹ <https://www.iea.org/topics/transport>

² <https://www.thelocal.fr/20230504/france-marks-100000th-charging-point-for-electric-cars>

³ [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Passenger_cars_in_the_EU#:~:text=In%202021%2C%20the%20number%20of,France%20\(39%20million%20cars\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Passenger_cars_in_the_EU#:~:text=In%202021%2C%20the%20number%20of,France%20(39%20million%20cars))

Building an EV Charging Partnership

Carrefour is not only the second-largest supermarket retailer in France with a market share of roughly 20%, but also one of the largest in the world, present in more than 30 countries and reaching 104 million households each year. As such, the partnership between Meridiam and Carrefour is an opportunity to deploy EV charging across one of the largest and strongest footprints in France, leveraging Meridiam's expertise in infrastructure investment and financing, Allego's experience in managing EV charging networks, and Carrefour's experience in retail and customer loyalty. Allego is the leading European public EV charging network whose major shareholder is Meridiam through its transition fund.

Following our agreement, we ran workshops to understand the requirements and define a successful project. This was supplemented by planning sessions to develop a solution based around the following key objectives:

- Installation of a minimum of 4 EV charging stations per Carrefour site
- An innovative approach with a dedicated white label app that would provide for 1 hour free charging for Carrefour Loyalty customers
- Fast and ultra-fast charging to enable cars to charge in 15-45 minutes
- Free service for electric bikes, scooters and mopeds
- Full demand risk transfer in exchange for a long 12-year lease on each of the installed sites

Securing Senior Debt Financing – First for an EV Project

Meridiam's project with Carrefour is the first EV charging project to secure senior debt financing from banking partners. While this sector is strategic, benefits from the secular shift to electric vehicles, and is supported by public policy and regulation, it still presents many risks to conservative lending institutions. The pace of adoption of electric vehicles is unknown, with driving and charging habits uncertain; energy costs can be highly volatile.

To allay concerns, we guided lending partners through extensive due diligence with workshops to outline the business case and potential risks. In addition, Meridiam invested €20 million ahead of financial close to begin the roll-out of the charging infrastructure. As a result of these measures, we secured €55 million from a group of six banks, significantly lowering the cost of capital for delivering such schemes and setting a precedent for future EV charging projects.



Understanding and Mitigating Risks

Having identified potential sites for EV charger deployment, we worked with Carrefour, Allego and subcontracting partners to identify the key risks involved.

Traffic risk

Understanding driver behaviour was essential. We undertook extensive due diligence with Allego and our adviser Arup, using Allego's model that takes 100 data points to analyse daily traffic activity. In addition, we assessed factors including population density, EV sales and technology development, and charging equipment technical features.

Macroeconomic risk

We worked with specialist energy consultancy Compass Lexecon to model scenarios and understand energy price risk.

Operational performance

Our technical advisers reviewed Allego performance data and potential equipment to assess operational risks, such as technical lifetime of charging infrastructure and replacement costs.

This data and understanding helped us to identify the most appropriate places to install charging equipment, ranging from larger stations close to highways or in densely populated areas, to small low-voltage stations in the suburbs of tier 2 cities. Additionally, we were able to accept and assign risk to the most suitable partner on the project.

Our in-depth analysis enabled Meridiam to accept all traffic risk, while operational performance risk was assigned to the equipment provider Allego, with strict availability clauses incorporated in the contract.

Leveraging Data to Deliver a Better Service

We created a bespoke EV Cloud to track data from all our chargers, and give us – and our partners – a clear view of consumer behaviour. This technology enables us to deliver a better service, understand the evolution of risks, and ensure stronger performance.

Availability of chargers – or up-time – is central to customer confidence and underpins the switch to electric vehicles. Since beginning our roll-out, we have consistently maintained high up-time above 90%. We also monitor factors such as kWh sold per site, average ticket per session, and the time of day and week when customers are using chargers. Using this data, we see which sites are overperforming or underperforming versus our original expectations. As a result, we have highlighted locations – such as Ségny, close to Geneva on the Swiss border – where we will be able to install more chargers.

Data has given us the power to assess the correlation between charging times and electricity prices. Against a backdrop of rising energy prices, we were able to adjust our business case and identify renewable energy tariffs that were able to keep charging costs low, sustainable and equitable for users.

The technology also includes the Carrefour Energies app for customers to locate available chargers, start and pay for sessions, and monitor the progress of charging, while also allowing Carrefour Loyalty customers to access their one hour of daily free charging. In turn, this data helps the retailer to understand the relationship between customers' charging visits and their shopping habits, giving it the ability to finetune the strategy to ensure that the free EV charging offer also stimulates footfall in stores.

Strengthening Positive Environmental Impact

At its core, our partnership with Carrefour supports multiple SDGs by facilitating the transition to low-carbon mobility, serving those unable to access EV charging infrastructure at home, and contributing to the prevention of CO2 and Nitrogen Oxide emissions. At Meridiam, we actively look for all the ways we can deliver impact and have identified other environmental benefits. These include:

- Working with Allego to ensure that charging infrastructure is made in a sustainable way and uses recycled materials where possible
- Certification to guarantee that power supplied through our charging infrastructure comes from renewable sources
- Incorporating solar PV where possible at all charging locations
- Investigating the use of green roofs on transformer stations to promote biodiversity

Delivering Long-Term Social Benefits

Our projects take into account the regions in which we operate and, as such, seek to deliver economic impact for local communities, in particular the least advantaged in society. Our aim is to promote long-term employment, while enhancing understanding – and ultimately adoption – of EVs. Through EV Cars, we have put in place a number of social programmes:

- With installation and maintenance subcontractor Firalp, we are delivering upskilling and training, helping workers transition and develop in the EV charging sector as the roll-out of fibre infrastructure comes to an end
- Open days organised by EV Cars and partners aimed at showcasing employment opportunities, particularly to the unemployed in areas that will see rapid roll-out of EV infrastructure. Our aim is to track data events to see how interest among individuals translates into actual employment
- Pop-up events, advertising and staff training to promote awareness and drive a change in behaviour around adoption of EVs

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Our project with Carrefour is the **first ever to access senior debt financing**, significantly reducing the cost of capital and setting a template for the **sustainable roll-out of EV charging infrastructure.**”

Jean Gadrat, CEO EV Cars



Conclusion

As countries across Europe and around the globe aim for ambitious targets on the adoption of EVs, the pace of building out charging infrastructure will inevitably increase. Large retailers are a natural partner for deploying chargers, reaching people that do not have access to facilities at home.

The EV Cars project demonstrates the power of working closely with a partner that has a large and loyal following, as well as the importance of conducting extensive due diligence to identify and mitigate risks. This understanding is crucial to unlock senior financing that can lower the cost of capital and make such projects more

efficient from an investment perspective.

The use of data is another differentiator, enabling us to understand customer needs, ensure reliability, and ultimately improve the quality of the service. Building confidence in charging infrastructure will be critical to encouraging more people to transition to electric vehicles, thereby supporting the energy transition and helping tackle climate change. The EV Cars project with Carrefour has the potential to become a template for other charging infrastructure investments in France and around the world.

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