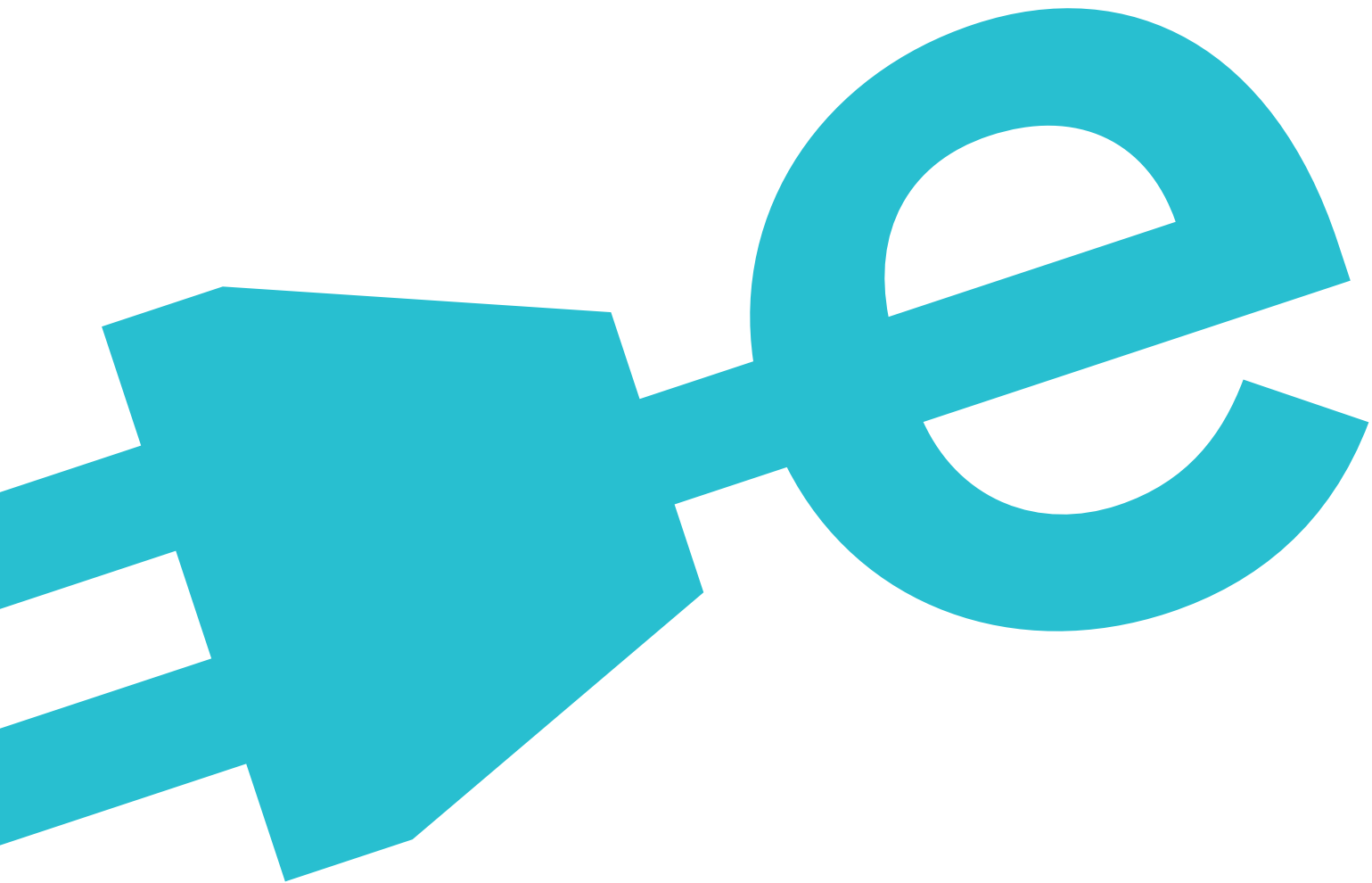


AMSTERDAM METROPOLITAN AREA ELECTRIC

Think global, charge local





CONTENT

- About MRA Electric
- Why electric driving?
- Sufficient models on the market
- Charge anywhere
- E-taxi and car sharing
- E-delivery van
- Governmental E- fleets
- Financially attractive
- What can we do for each other?
- Contact

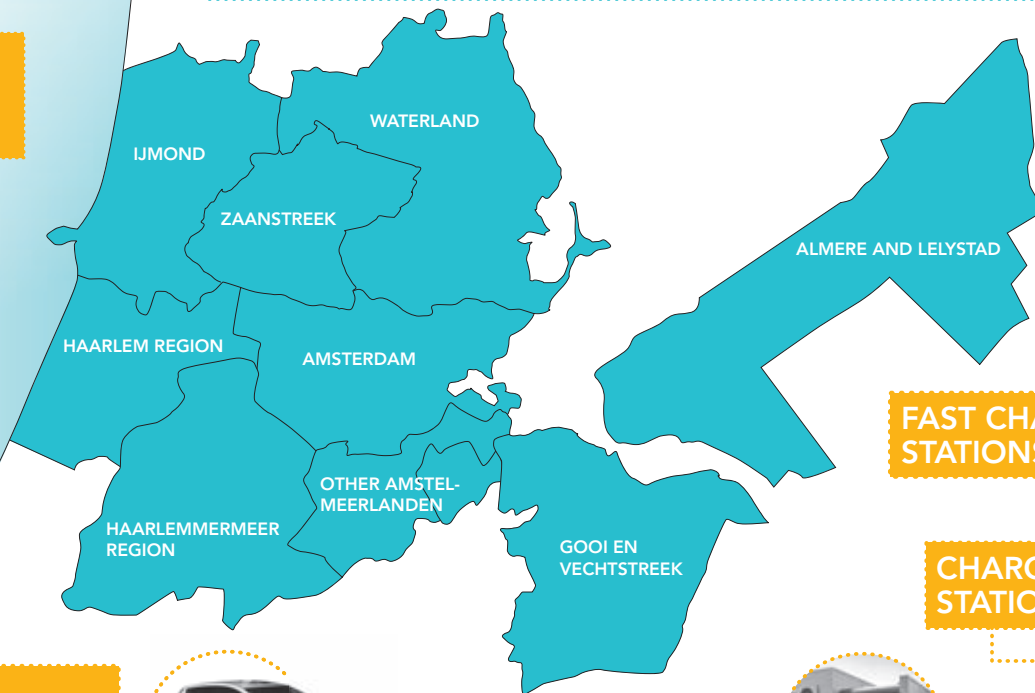
MRA-E

- Electric taxis
- Delivery vans and company passenger cars
- Network of public charging stations
- Fast charging stations along the freeway
- Battery switch stations
- Pilot with electric buses in the region

E-TAXI'S



ELECTRIC DELIVERY VANS



ELECTRIC MUNICIPAL AND COMPANY VEHICLES



BATTERY SWITCH STATIONS



FAST CHARGING STATIONS



CHARGING STATIONS



ABOUT MRA ELECTRIC

More and more government agencies and companies start believing in the future of e-driving. If we, as a region, learn from each other, make smart investments and work together with businesses, we can speed up the introduction of electric driving. To this end, The Amsterdam Metropolitan Area Electric (MRA Electric) project was launched in 2011.

E-VEHICLES

MRA-E will focus on three conditions for electric driving in the coming years: sharing knowledge, a regional charging infrastructure and more e-cars on the freeways. The first step is to replace diesel vehicles that drive a lot of kilometres, such as taxis, delivery vans and the vehicle fleets of government agencies. MRA-E is not doing all of this by itself but is actively hitting the road as a type of booster, listening ear and guide combined into one. The team has direct access to all the necessary expertise to make e-driving a success. Therefore, you don't need to reinvent the wheel – just knock on our door.

CHARGING STATIONS

In 2012, about 100 charging stations were set up in MRA municipalities, and about as many requests for new stations were received. If this trend continues, a good portion of the business-to-business traffic and commuter traffic will consist of electric cars by 2020. An ideal billboard for an innovative region, with a healthy and sustainable business climate.

INTERNATIONAL COOPERATION

MRA-E is also working together closely with international partners, like the Interreg North Sea Region Electric Mobility Network. The main objective of that project is to enable long-distance electric transportation in the North Sea region. Then we can start imagining unlimited electric driving throughout Europe – on quiet, clean roads.

ELECTRIC MOBILITY INFORMATION CENTRE

One of the activities of MRA Electric in the framework of NSR E-mobility is the set up of an Electric Mobility Information Centre to inform stakeholders in the region about e-mobility. The EMIC located in the city of Amsterdam primarily acts as an information centre for the whole of the metropolitan region. In addition to the 39 local and regional authorities in the area, several (non) profit organizations receive information from MRA-E, send in their questions and share knowledge or best practices. Apart from physical appearance the Amsterdam EMIC is working on a rapid improvement of virtual information services.



NEW INVESTORS

More and more government agencies and companies start believing in the future of e-mobility. For example, the EU is contributing financially to the building of fast charging stations (for 2016) along the freeways in the metropolitan region. The Royal Dutch Touring Club (ANWB) also wants to invest in charging stations. Furthermore, the Ministry of Economic Affairs, Agriculture and Innovation supports MRA-E as a Green Deal project.

A FEW FACTS ABOUT THE METROPOLITAN REGION OF AMSTERDAM

- 2.3 million inhabitants
- Covers a land area of 2.580 km²
- 10,000 km of roads
- 1.300.278 motorised vehicles
- 7 million travellers every day

The region consists of 36 municipalities, the provinces of North Holland and Flevoland, Rijkswaterstaat (the Department of Waterways and Public Works) and the city region of Amsterdam. The region has a strong international position in the following sectors: financial service provision, international trade, ICT, media, creative industry, tourism, the knowledge sector and logistics.

Source O + S Amsterdam

COOPERATING REGIONAL GOVERNMENT AUTHORITIES:

Province of North Holland / Province of Flevoland / City Region of Amsterdam / Rijkswaterstaat / North Holland / Aalsmeer / Almere / Amstelveen / Amsterdam / Beemster / Beverwijk / Blaricum / Bloemendaal / Bussum / Diemen / Edam-Volendam / Haarlem / Haarlemmerliede-Spaarnwoude / Haarlemmermeer / Heemskerk / Heemstede / Hilversum / Huizen / Landsmeer / Laren / Lelystad / Muiden / Naarden / Oostzaan / Ouder-Amstel / Purmerend / Uitgeest / Uithoorn / Velsen / Waterland / Weesp / Wijdemeren / Wormerland / Zaanstad / Zandvoort / Zeevang /



WHY DRIVE ELECTRIC?

The traditional car, based on the invention of the gasoline engine in 1876, has had its day. Electric driving is the future, for several reasons:

- It is the best solution for keeping city air clean.
- It makes us less dependent on oil and gas.
- CO₂ emissions will plummet by megatons, provided that the electricity is sustainably generated.
- A modern, clean and quiet traffic system will create an attractive business climate.
- Experts on the subject know: electric driving is an unprecedented driving experience.

The national research institutes ECN and TNO expect the transfer to electric transportation to start taking place sometime around 2020. Of course, this will not happen by itself! A lot of hard work is being done by trendsetters who are already investing in the future today: companies, private individuals and government agencies. In fact, the government plays a decisive role in this preparatory phase. Firstly, by creating

favourable conditions for the auto industry to bring electric models to market. And secondly, by ensuring a national network of charging stations. Otherwise, no one will buy an electric car ('because you can hardly charge your car anywhere') and no one will invest in charging stations ('because there are hardly any electric cars'). It is the aim of government initiatives such as MRA-E to break this circular reasoning.



OPEL AMPERA



RENAULT ZOE



RENAULT KANGOO ZE



TESLA S



MITSUBISHI-I-MIEV



MERCEDES VITO E-CELL



NISSAN-LEAF



RENAULT FLUENCE ZE



SMART



FORD FOCUS



BMW ACTIVE E



SMITH NEWTON



MERCEDES A-KLASSE



CHEVROLET VOLT



MIA



FORD TRANSIT CONNECT

ENOUGH MODELS ON THE MARKET

MRA-E often receives queries about the available offer of electric vehicles. Luckily, the assortment is already quite respectable. The auto industry is investing billions into increasingly better electric models. And this doesn't only comprise small city cars, but also company cars for the lease market, sports cars, delivery vans and even buses and trucks. The purchase price is still a bit higher for electric vehicles than for traditional ones, but the prices are beginning to decrease and the costs of ownership are favourable.

Some models feature 'range extenders'. Such a car is essentially electric but also has a small gasoline engine that can help charge the battery while on the road. The well-known 'hybrid' car is somewhat different: it is essentially a gasoline car with a battery that sometimes takes over the driving. That's why MRA-E is not particularly focused on stimulating the use of hybrid vehicles.



Opladen
elektrische
voertuigen



Sign says "Charging electric vehicles"

CHARGE ANYWHERE

On a full battery, most electric cars can drive about 100-150 kilometres, after which they need to plug in. That's not a problem – if you can do so everywhere. That's why MRA-E is working on expanding three types of charging infrastructures in the region.

CHARGING STATIONS

Everyone has seen the high-tech poles on the side of the street, where a car can charge up in 6 to 8 hours. The metropolitan region's goal is to create a network of charging stations. Municipalities are free to contact MRA-E for practical advice and assistance.

FAST CHARGING STATIONS

Powerful charging stations where a car can charge about 80% of its battery in 20 minutes. Provinces, municipalities, Rijkswaterstaat and businesses are working together with MRA-E to set up such stations along freeways in the region.

BATTERY SWITCH STATIONS

Better Place has developed a technology for replacing an empty battery for a full one in just a few minutes. A Renault Fluence is now being used for this. In 2012, the first battery replacement station in the Netherlands was opened at Schiphol Airport. The stations are primarily targeting taxis and later will focus on lease drivers. Better Place is currently working together with TCA, Connexxion and Biosgroep. MRA-E is exploring the possibility to realise other locations in the region in cooperation with Better Place.



E-TAXI AND CAR SHARING

Taxis are preeminently well-suited for a migration to electric models, and the effect on city air quality is comparatively large. MRA-E is working together with the taxi industry to launch electric taxis in the metropolitan region around Amsterdam. This is not only for environmental reasons but also to make e-driving a natural part of the cityscape. And taxis are an excellent way of achieving this goal thanks to their conspicuous presence.

FREQUENT DRIVERS

Frequent drivers such as taxis, trucks and delivery vehicles leave a comparatively large carbon footprint on air quality. The effect of one electric taxi is equal to 35 regular cars that switch to electric. That's why it makes sense to first have frequent drivers switch to electric cars.

CAR SHARING

Car sharing is something between a taxi and a car rental company. Various car sharing companies, such as Greenwheels, are starting to include e-cars in their assortment. The perspective for such electric shared-use cars is favourable, and will improve even more if there are sufficient charging stations in the region. MRA-E wants to pursue this goal energetically, together with municipalities and companies.



E-DELIVERY VANS

Delivery vans typically remain inside the region and always return to their warehouse, hangar, office or parking lot. These are true frequent drivers, and the region places a great deal of importance on electrifying these vehicles.

That is why MRA-E is developing plans with government agencies and businesses to get new e-delivery vans on the road. The outlook is positive, because companies are beginning to embrace electric delivery vans. Securitas, TNT, Croon Electrotechniek, Carglass and BAM are just some of the companies that have included electric vehicles in their fleet.



GOVERNMENT E-FLEETS

Government agencies and companies are experimenting with e-cars in their vehicle fleets all over the country. Some well-known examples of (semi) government authorities are: Rijkswaterstaat, the municipalities of Amsterdam and Zaanstad, University of Applied Sciences Utrecht and the region of IJmond. The metropolitan region places a great deal of importance on taking a leap forward in this area. The vehicle fleet of local government agencies serves as an important example to demonstrate to everyone that electric driving is already possible now.

MRA-E is stimulating government agencies in the region to include more electric cars in their vehicle fleet; for example, for business-to-business traffic within the region or as a lease car for commuter traffic. Discussions

are being held with lease companies in order to bring this about. Plans are also being developed for electric buses in the region.



FINANCIALLY ATTRACTIVE

Electric cars are more expensive to purchase, especially due to the pricey battery, but the overall financial picture is advantageous. As of October 2012, the federal government is providing a national subsidy of € 3,000 for electric taxis and delivery vans.

In addition, e-drivers are enjoying some fiscal advantages for the time being. No luxury tax (BPM), road tax or additional tax liability for lease cars, coupled with the advantage of the MIA and Vamil tax relief regulations. Furthermore, an e-car is cheaper to maintain

because it does not contain many parts that can break. Sample calculations show that the total cost of ownership of the e-car, even without a purchase subsidy, can be lower than that of a popular gasoline car:

TOTAL COST OF OWNERSHIP OF AN E-CAR*)		
	Nissan Leaf	Volkswagen Golf 1.2 TSI
Catalogue price	€ 34,990	€ 23,300
Depreciation per month	€ 550	€ 320
Price correction 1: including taxes, maintenance, etc.	€ 765	€ 656
Price correction 2: all costs in a lease contract	€ 345	€ 535

*) Source: Keuzegids Elektrisch autorijden (2012)

WHAT CAN WE DO FOR EACH OTHER?

WHAT CAN WE DO FOR YOU?

You are a business, municipality or government agency that wants to use electric transportation in the region of Amsterdam. But you have questions about the right charging pole, suitable vehicles, partners and financing, project management and permits, parking and communication. MRA-E will be glad to provide you with advice and assistance on all of these issues.

WHAT CAN YOU DO FOR US?

MRA-E is looking for entrepreneurial partners in order to achieve rapid progress, especially by:

- Replacing diesel vehicles in your vehicle fleet with electric passenger cars, taxis or delivery vans;
- Installing new charging stations and fast charging stations.

We would also be interested in hearing your ideas about related services.

CONTACT

MORE INFORMATION

For more information, go to:

www.mraelektrisch.nl

Follow us on Twitter: #mraelektrisch

Subscribe to our digital newsletter by sending an email to:

chull@pmb.amsterdam.nl

CONTACT

Do you have questions or do you want to make an appointment?

If so, then please contact

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**Amsterdam Metropolitan Area
electric**



THE MRA-E CORE TEAM



MAARTEN LINNENKAMP

Projectmanager

Maarten is the initiator of Amsterdam Electric and made a success of electric transport in the capital. Now, he is working on the roll-out of electric transport in the Metropolitan Region of Amsterdam (MRA) and advises other municipal and provincial authorities and the Dutch government on electric transport.



CHRISTINE VAN 'T HULL

Senior Communications Advisor

Christine is an experienced communications advisor in the field of e-mobility. She started with Amsterdam Electric and is now responsible for the communications and public relations of MRA-E. Christine is also involved in the Interreg E-mobility project.



MAUREEN BROWN

Secretary



PIETER HABETS

Junior Projectmanager

Pieter has been working on electric mobility from the start in 2008. He is good at connecting people and has a lot of experience in coordinating projects. He is motivated and enthusiastic to make electric mobility grow and is working on a public tender for new charging points.



DOMINGO REGALADO VAN OS

Assistant Projectmanager

Domingo is new on the subject of electric mobility. He is enthusiastic and experienced in the collaboration with governments and commercial businesses. At MRA-E he will be implementing a Green Deal with the national government.



PIETER LOOIJESTIJN

Financial advisor

Pieter is a grants advisor with broad experience in European projects and programs. In this role he looks out for new funding opportunities, guards

the compliance with European regulations and takes care of the financial management of MRA-E projects.



ENDRE TIMÁR

Endre is a freelance writer, editor and sustainability expert

For MRA-E he is the editor of publications, responsible for the creation and maintenance of a new blog, and works on several articles for internal and external media.



Our man in L.A.

PETER VAN DEVENTER

Ambassador

Peter of the Province of North-Holland will fulfill the ambassadors role in the cooperation between electric mobility on the west coast of the United States and the metropolis of Amsterdam.

Amsterdam Metropolitan Area electric



e-mobility NSR

European Union



The European Regional Development Fund

The Interreg IVB
North Sea Region
Programme



*Investing in the future by working together
for a sustainable and competitive region*