

**CES BATTERY BOX**  
SMART NATURAL ENERGY





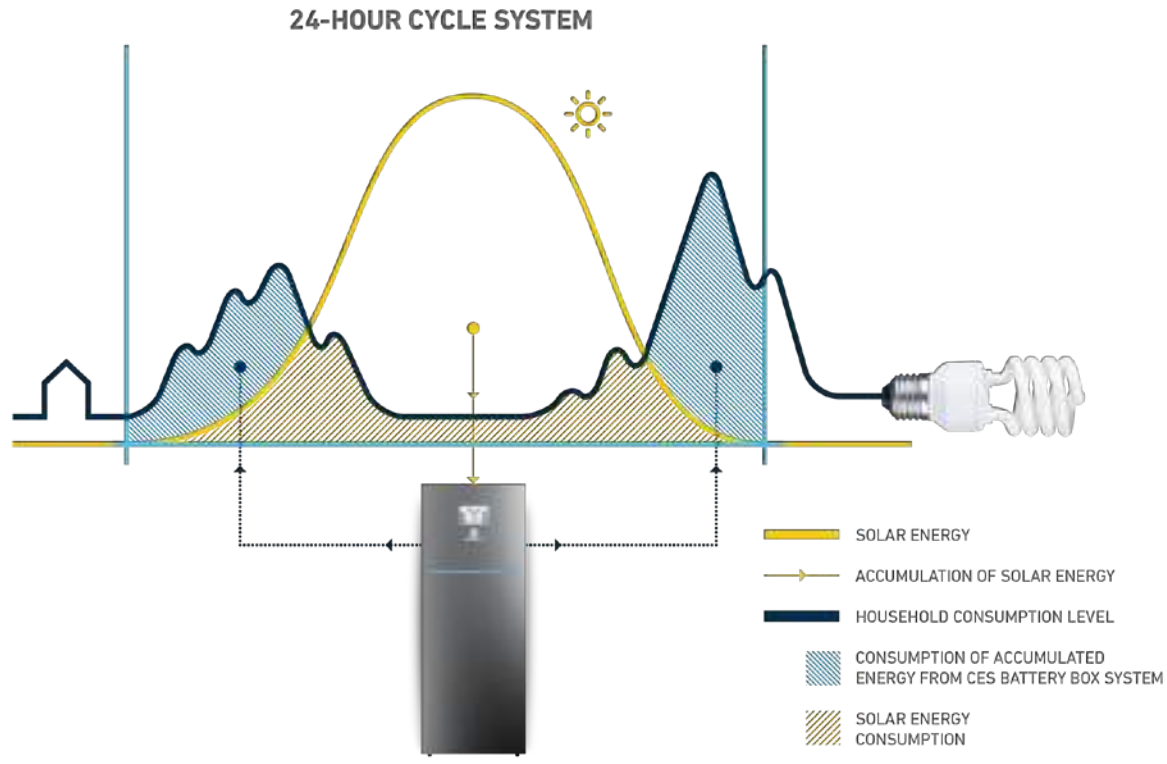
### The CES BATTERY BOX INTRODUCTION

1. Description of our device functions, what its key benefits are and why we are convinced it will play a crucial role in energy decentralization.
2. Brief introduction on our view of electromobility and how we should support it, so that its development is natural and we don't spend money senselessly on subsidies.
3. The battery box as a revolutionary solution for building the electromobility infrastructure.



**CES BATTERY BOX**  
INTELLIGENT CLEAN  
ENERGY - DECENTRALIZED  
POWER RESOURCE  
FOR SPECIFIC OBJECTS

During the development of the battery box, we focused on how to make the most of the potential of renewable sources, especially photovoltaic panels, as small decentralized power sources for specific buildings - for family houses and municipal or corporate buildings.



The main problem with such a use of renewable resources is that the consumption in the building usually occurs at another time (as shown by the blue curve) than production (as you can see on this yellow curve). It is therefore ideal to be able to preserve this energy and then be able to manage its distribution smartly in the building so that all the appliances in the house can work on it.

## WHAT IS INSIDE THE BOX?

And this is what our battery box makes possible today. The box basically has two parts.

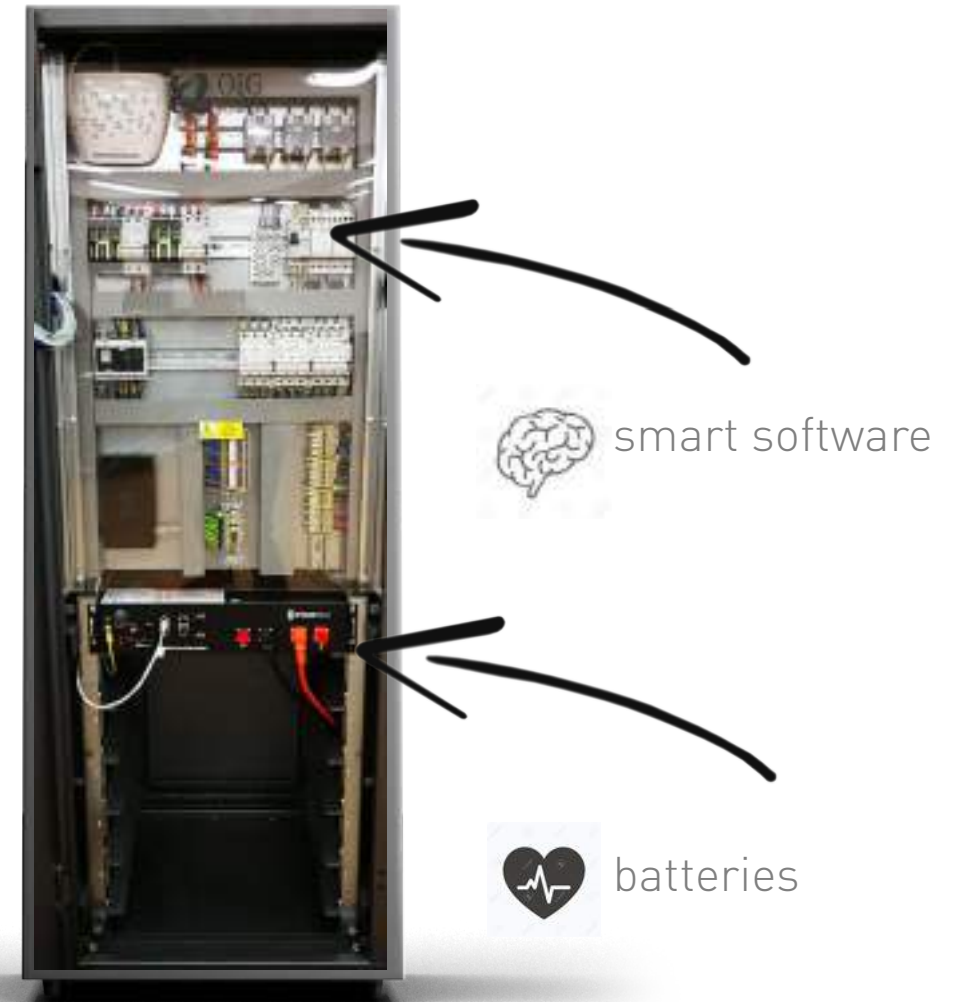
The batteries are stored in the bottom one. The capacity of the box is variable depending on the number of batteries you put in it and can be from 2.4 kWh to 19.6 kWh.

The big advantage is that it can be adjusted ideally according to the consumption in the building.

By combining multiple boxes it's able to achieve a capacity of up to 120 kWh for one object.

The other top part of the box contains smart software that controls the stored energy inside the building so that all electrical appliances in the house work on it.

The TV, air conditioning, refrigerator, just like when a house is supplied from the power network.



## THREE-PHASE TYPE



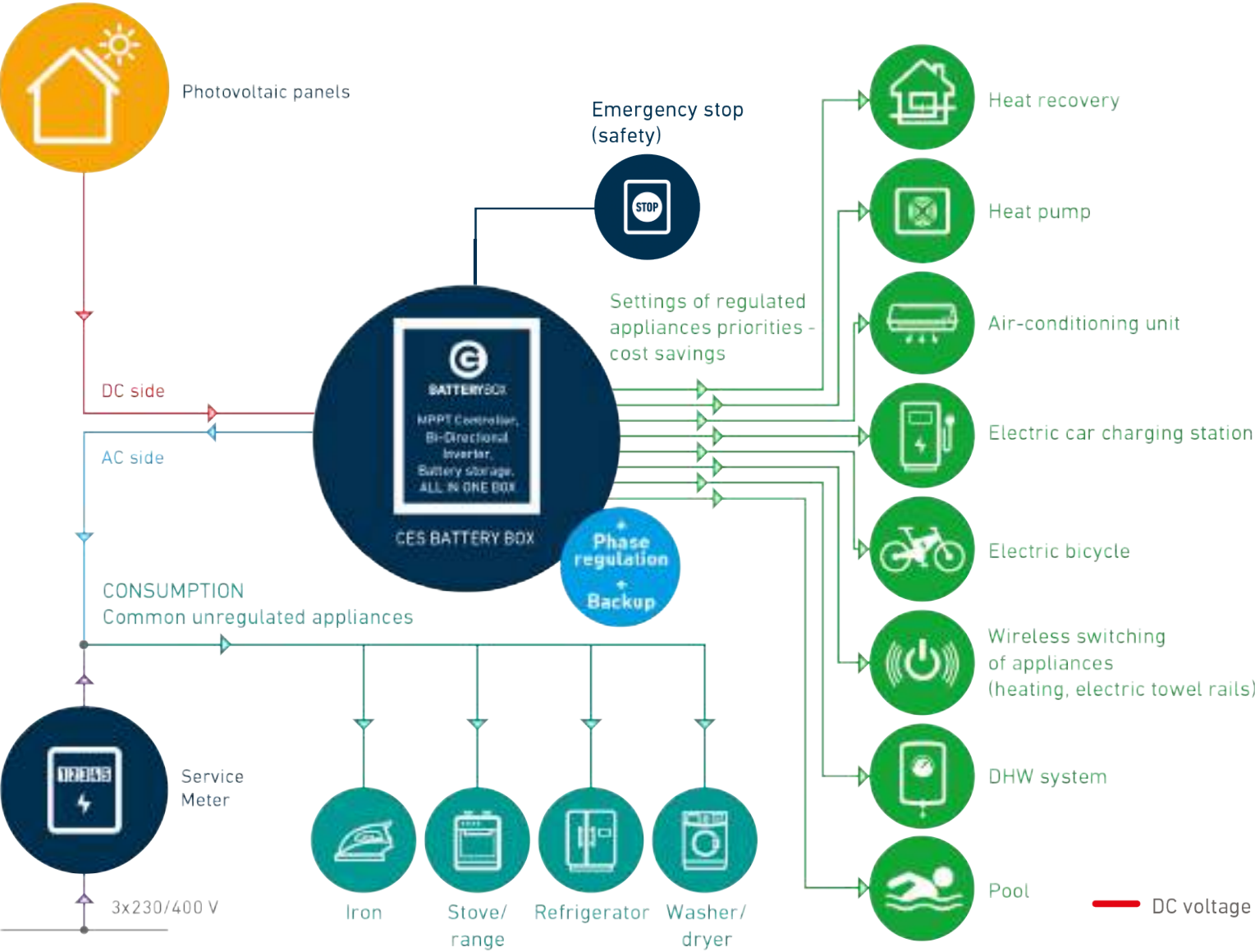
## SINGLE-PHASE TYPE



Three-phase version - Most buildings in the Czech Republic and the Slovak Republic are connected to three phases, so the three-phase box is designed for buildings such as family houses, corporate or municipal buildings, schools and kindergartens.

The single phase version is mainly used in industry as a source of energy, for example in the gas industry for cathodic protection stations or the electric control of valve shafts in the water industry. We have carried out successful pilot projects in all of these areas and we are now already performing routine installations.

# HOW DOES CES BATTERY BOX WORK?



The connection description:  
 ... the source of electricity production on the roof  
 ... that goes to the box where it is either stored or consumed directly in the building and all the appliances ...  
 ... Smart software then controls the consumption of other devices so that they can use the self-produced energy from renewable sources as much as possible and as little as possible from the power network.

However, the box is able to replenish power from the power network at any time, if necessary.

— DC voltage    
 — AC voltage of CES hybrid system    
 — AC distribution, during High Demand Periods

# INTERFACE AND MOBILE APPLICATION



user-friendly software  
with complete system information

The operation of the box is possible directly via the display on the box.

Or today already via an online application that allows to control the box from mobile phone and to always have an overview of how much energy the panels are producing, how much energy is stored in the batteries, and always determine on what and when to use it.



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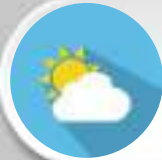


complete system management through mobile application

# WHICH INNOVATIONS DOES OUR SYSTEM BRING?



BLACKOUT  
PROTECTION



SMART  
DISTRIBUTION  
MANAGEMENT



CONSUMPTION  
PRIORITIES  
MANAGEMENT



BATTERY SYSTEM  
MANAGEMENT



ALL-IN-ONE  
SYSTEM



ALL TYPES OF ROOF  
ORIENTATION



FIRE SAFETY  
STOP BUTTON



SMARTPHONES  
REMOTE CONTROL



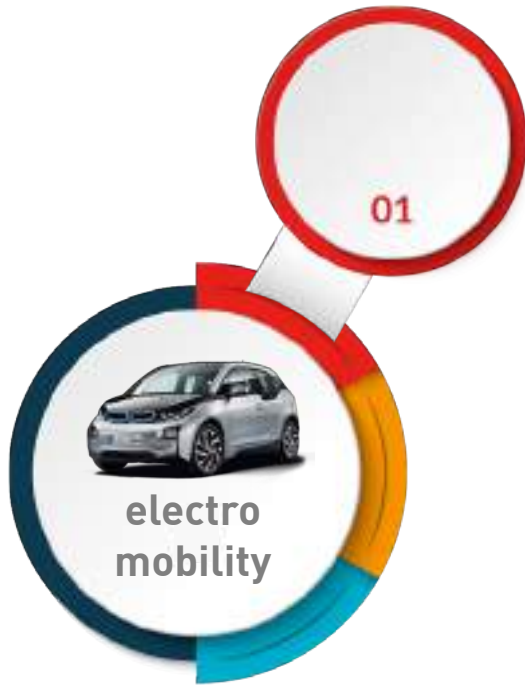
# THE BATTERY BOX AND ELECTROMOBILITY

Electromobility is today a phenomenon which we all expect to change transport and the car market. It could be a huge opportunity, but Europe should be able to make the most of this trend and not repeat the mistakes that happened during the massive government support for renewable resources in many countries.

We are now looking for a way to support this trend from both the EU and the Member States. The development of electromobility is certainly deserving of support, but it should be truly rational and effective.



## MAIN QUESTIONS



**WHAT DOES THE EUROPEAN UNION  
EXPECT FROM ELECTROMOBILITY?**



WHAT DOES EUROPEAN UNION EXPECT  
FROM ELECTROMOBILITY?

# REDUCING

## EMISSIONS



## MAIN QUESTIONS



**WHAT IS THE BIGGEST OBSTACLE  
PREVENTING EUROPEANS  
FROM BUYING ELECTRIC CARS TODAY?**



WHAT IS THE BIGGEST OBSTACLE PREVENTING EUROPEANS FROM BUYING ELECTRIC CARS TODAY?

**HIGH**  
PRICE



WHAT IS THE BIGGEST OBSTACLE PREVENTING EUROPEANS FROM BUYING ELECTRIC CARS TODAY?



# NO REAL INFRASTRUCTURE





WHAT IS THE BIGGEST OBSTACLE PREVENTING EUROPEANS  
FROM BUYING ELECTRIC CARS TODAY?



# USELESS

## WAITING TIME



WHAT IS THE BIGGEST OBSTACLE PREVENTING EUROPEANS FROM BUYING ELECTRIC CARS TODAY?

# LACK

## OF CHARGING STATIONS



## MAIN QUESTIONS

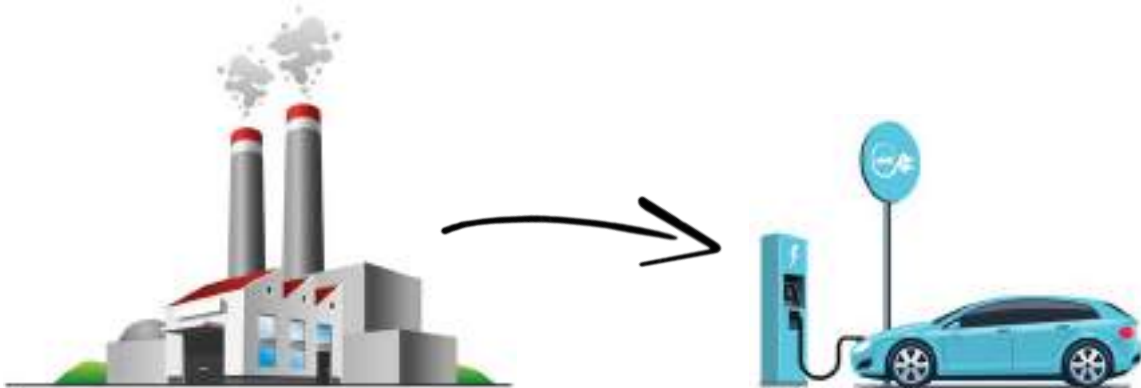


**WHAT WILL THE DEVELOPMENT  
OF ELECTROMOBILITY BRING  
FOR THE ENERGY INFRASTRUCTURE?**



WHAT WILL THE DEVELOPMENT OF ELECTROMOBILITY BRING FOR THE ENERGY INFRASTRUCTURE?

# FOSSIL FUELS AGAIN



WHAT WILL THE DEVELOPMENT OF ELECTROMOBILITY BRING FOR THE ENERGY INFRASTRUCTURE?

# INSUFFICIENT TRANSMISSION CAPACITY



## EU COMMISSION 'S FIRST STEP



What is the first step proposed by the EU Commission?

Build the infrastructure by first setting up a strong recharging station on the TNT highway network, then on the lower road classes. But the main goal was to reduce emissions.

# HIGHWAY

# RECHARGING NETWORK



Where do emissions bother us the most? Does it torment us on the highway between Prague and Berlin?

In the Czech Republic, and we believe that even in most European countries, emissions are a fundamental problem in the city centers. That's where it is necessary to eliminate emissions from.

# REDUCING EMISSIONS

## IN CITY CENTERS



## MAIN LIMITS

What limits Europeans in the purchasing of electric vehicles?

The first limit - Price!

We are convinced that the first electric cars will not be big electric cars for the whole family for 80 000 EUR, but small cars primarily purchased as a second car for the family.

It is the middle class that is starting to buy them, who are more concerned about the environment and can afford them.

Big cars will come during the second wave, once the technology is cheaper. On the contrary, now we need it to be small cars in cities.

That's where reducing emissions is needed.

It is necessary to consider whether to support this behavior.

# HIGH PRICE



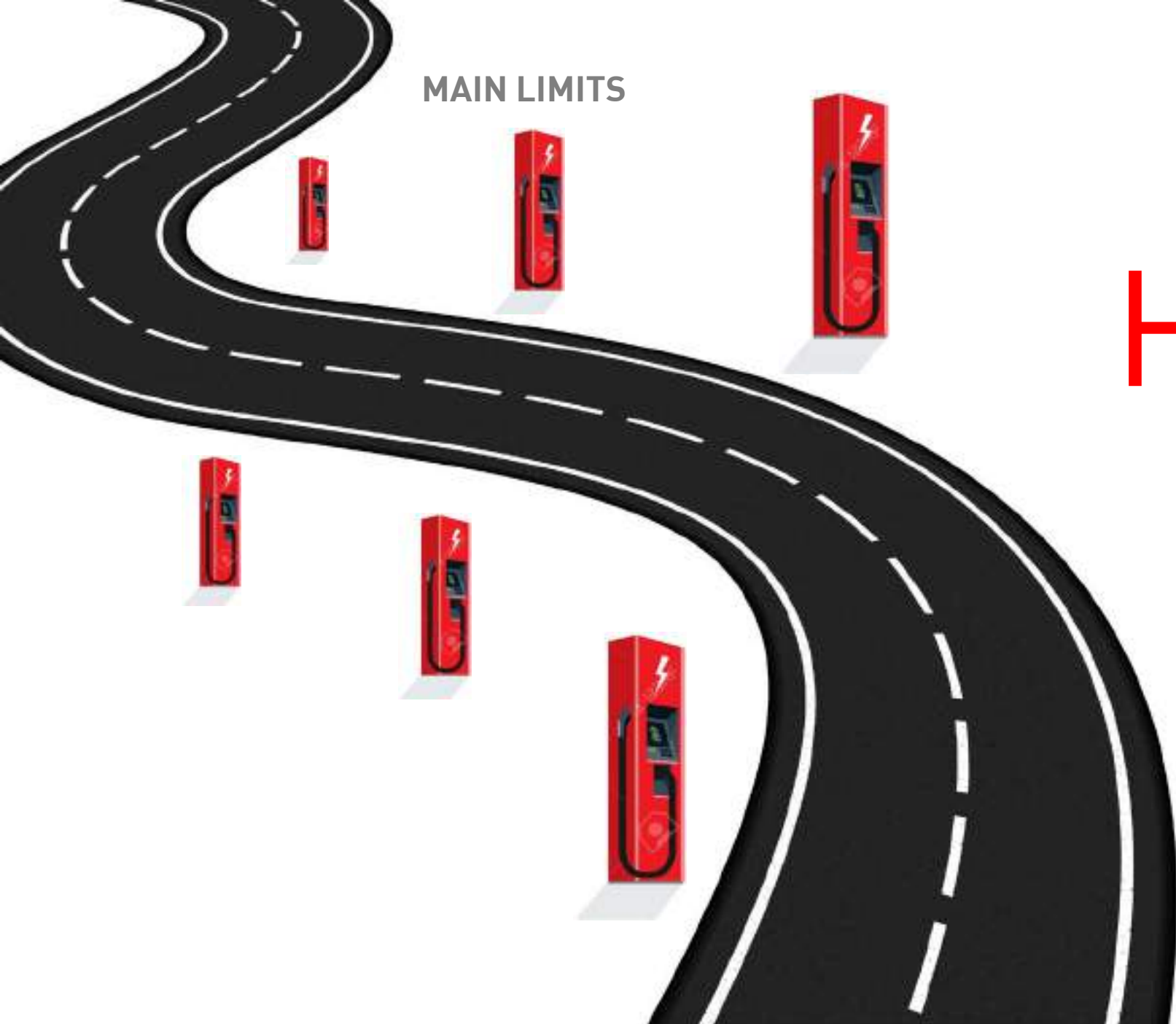
LUXURY ELECTRIC CAR



SMALL ELECTRIC CAR



MAIN LIMITS



# HIGHWAY

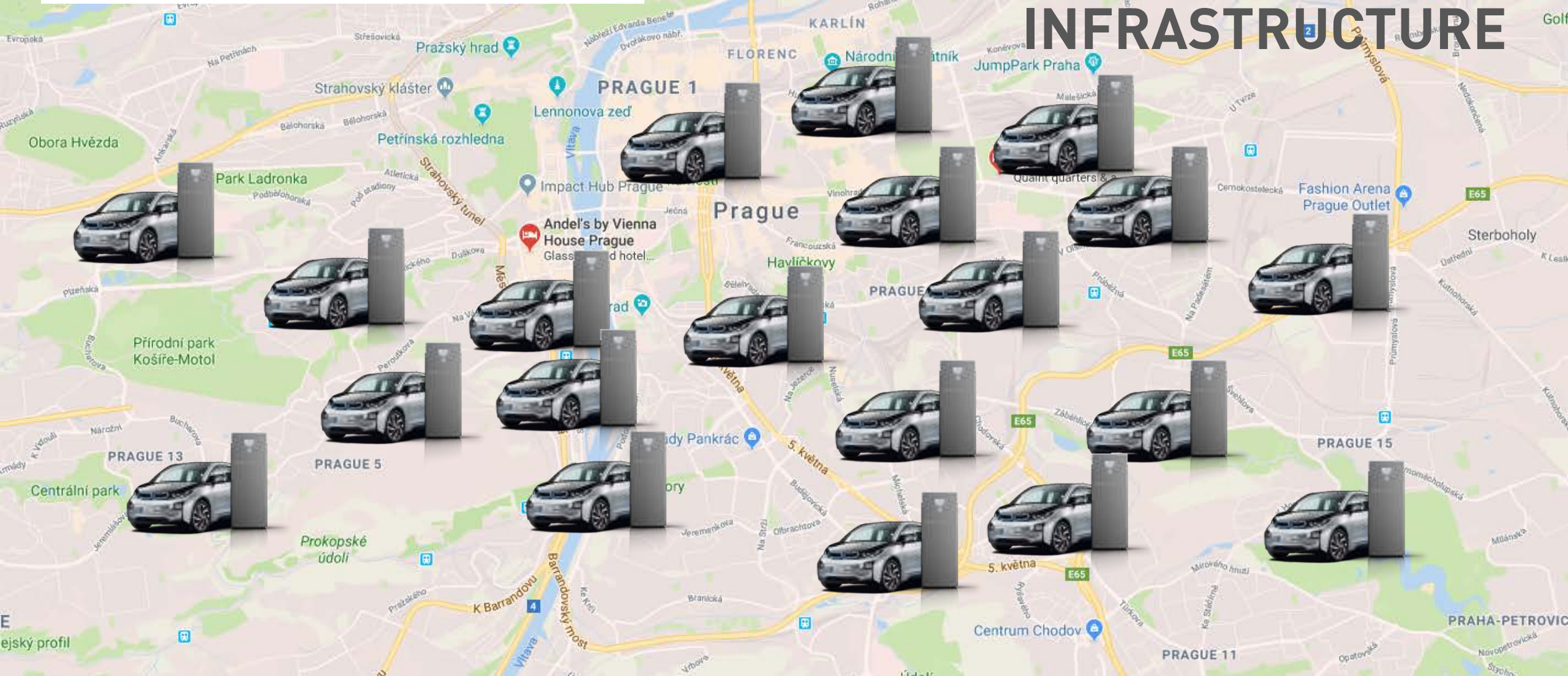
## INFRASTRUCTURE

Is starting out with the support of strong expensive chargers on highways the right way?



We believe it is necessary to build a dense network of recharging stations in the city center and offer people a solution in the form of a home recharging station. People don't want to sit at the gas station and wait for the car to charge.

# CITY CENTER INFRASTRUCTURE



# HOME

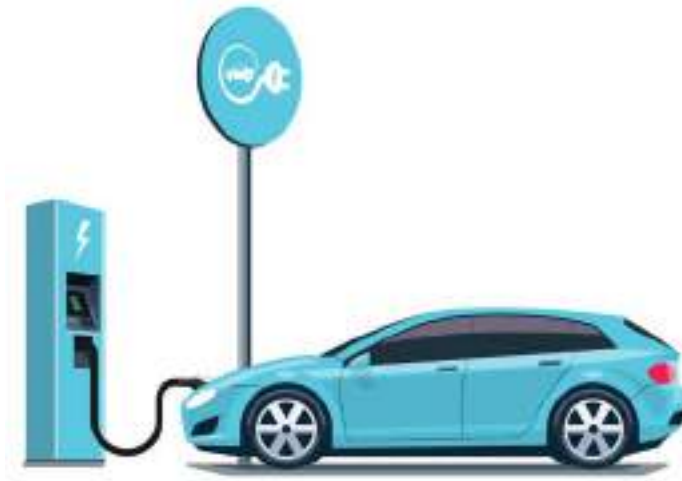
## PRODUCTION AND RECHARGING



## MAIN LIMITS

It is understandable when Europeans say "my car needs to be getting charged while I'm doing something else. While I'm at work... at an appointment ... shopping... at the cinema... or fitness center. "

# I AM ACTIVE WHILE RECHARGING



## MAIN LIMITS

What will it mean for infrastructure and electricity sources?  
In addition to the criticism of ecologists that you will generate electricity from coal anyway for the charging of a car, it will be a burden for both resources and infrastructure.  
Infrastructure will need to be strengthened. For example, few refueling stations today have enough input power to handle a powerful charging station. Smaller cars in the city will also not need such power and they will rarely be charged from zero to 100%.

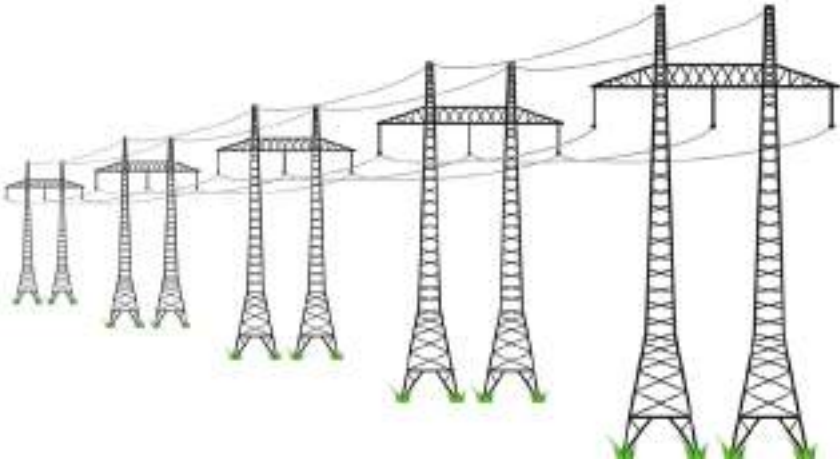
# INSUFFICIENT TRANSMISSION CAPACITY



# MAIN LIMITS

But then again, the more stations that are created, the greater the burden on the distribution system will be. The mains will need to be strengthened, which will be ancillary costs and will increase the prices. The capacities of some transformer stations are already insufficient.

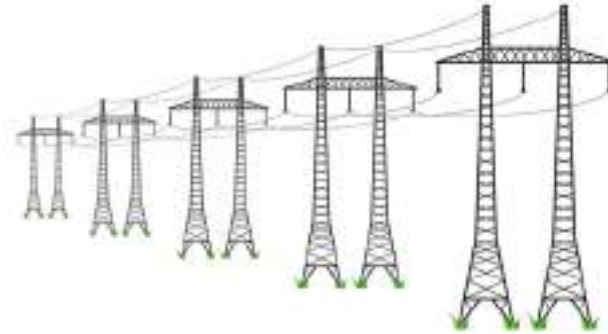
# INSUFFICIENT TRANSMISSION CAPACITY



# THE SOLUTION



independence on the grid



independence on existing sources



A solution that is not dependent solely on the grid in the distribution system and on existing sources would thus be ideal. Optimally, a device that can produce energy on site.

# THE SOLUTION

If we want to achieve the fastest expansion of electromobility and not leave development up to the natural development of the market and thus to invest money in support, then the following is logical: Motivate people to buy smaller cars in the first wave. / Build infrastructure in cities. / Motivate people to buy a car ideally with their own source of production at family houses or businesses. / Encourage municipalities, businesses, and commercial entities to build such an infrastructure



city infrastructure



project support



small electric cars



own clean energy source



local and smart way of use



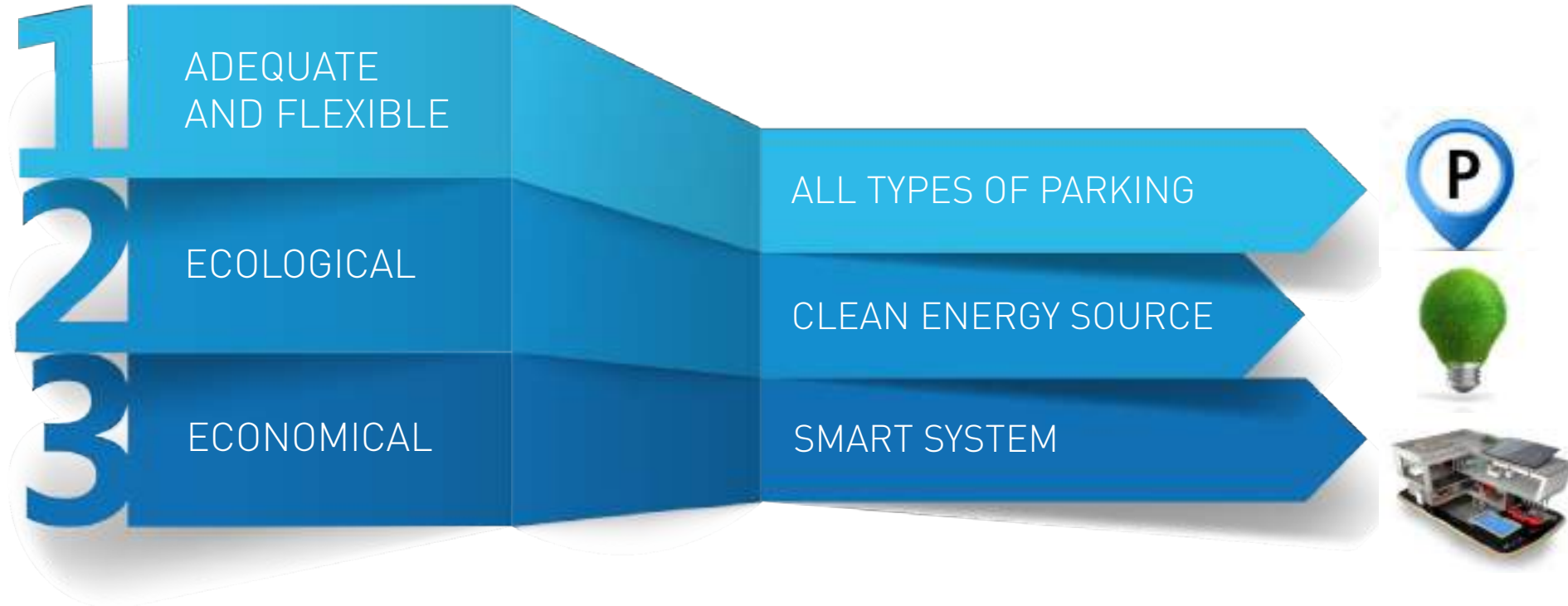
That is why OIG POWER has come up with a concept of charging stations that will be able to locally produce electricity from solar panels and, in combination with the Batterybox, store it locally and recharge the car from it.  
The picture is illustrative.



## MAIN BENEFITS

They are easy to place in cities in front of shopping malls, public parking lots, businesses, schools, cinemas, etc. ... Solar energy is truly ecological. Ideal for charging smaller electric cars.

Energy produced which is not used to charge an electric car can be consumed in the premises near which it is located and thus improve the economy for the investor. They have minimal infrastructure demands and do not burden it. Instead, they create local backup resources.



We will introduce our solution in April in Prague !



April, 2018  
Prague

A tall, grey, rectangular battery box stands on a green lawn. The background shows a dense line of trees and a bright sun with rays breaking through the clouds. The battery box has a small display screen near the top and a horizontal blue light strip below it.

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