

BANKING ON JUICE

Time for a recharge

Electric vehicles are the future – both in the private and public arena.

There's a wide consensus on this issue. One reason is the efficiency of this method of propulsion, another is the relative ease with which the fuel can be sourced.

Electricity is the only available form of energy which, in principal, we can generate in unlimited quantities, without necessarily having to rely on converting extremely scarce natural resources.

Car manufacturers like Tesla, Daimler and BMW have long since proven that the daily use of electric cars certainly doesn't have to mean giving up comfort or range – as the old-school media loves to claim.

And for any electricity company, however small, having at least one charging station for e-cars at the company headquarters is still a showpiece project – preferably state-funded, of course.



The chicken-and-egg challenge Or: Has anyone seen a rooster around ?

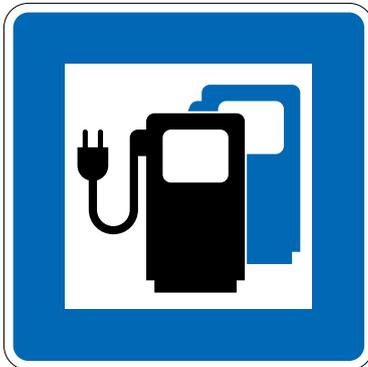
Rather a bold investment, nonetheless, bearing in mind that the core target group of e-car drivers is still of a fairly manageable size: It's not without reason that studies have been showing for years – and industry groups have been complaining – that the share of the population who can even afford their own vehicles (or even wants to) is getting smaller and smaller.

Even so, what are known as “billing and roaming alliances” have already been forged for years, with the aim of building up comprehensive charging infrastructure in Germany and Europe – the end result being a non-transparent “spare tyre” of numerous “brokers” and “technology partners” who cash in on every locally consumed kilowatt-hour, so that the final price will soon outstrip that of crude oil.

Accordingly, the initial phase of euphoria was also quick to evaporate – that phase when many long-standing electricity corporations (emerging back then from state-run enterprises) were already confidently and extensively celebrating the fact that they would be the oil multinationals of the future, with their coal and nuclear power stations written off long ago.

Since, for one thing, we just don't have access to comparable resources at Urban Hotbed, and (as opposed to political idealists or industrial lobbyists), we also prefer not to rely on public funding, let alone any type of improper advantage, we've spent months analysing in great detail actual market requirements for worry-free everyday operations and ways of resiliently commercialising charging infrastructure for electric vehicles.

None of the existing billing models, however, takes into account the ever-developing day-to-day reality of its most important target group: enlightened individuals who love to rely on advanced technology in their daily lives, but abandon it ruthlessly as soon as anyone tries to pull the wool over their eyes.



Target-group research – an encounter with reality

Our proposal for contemporary and, above all, economically viable market positioning of charging stations in city centres (so, near customers) is mainly based on the idea of making the required new infrastructure (electricity, display panel, data connection, ...) accessible in a beneficial way to the “mobile many” (so, to those who are multimodal in other areas of their lives).

After spending quite a number of hours talking to energy suppliers and e-mobility advocates across Germany, the following guiding principles eventually emerged for the specific form this enterprise should take:

1 Charging a car takes its time.

Depending on vehicle and how full the “tank” is, topping up takes anything from a few minutes to a few hours.

Numerous “experts” in Germany are of the opinion – for the right (subsidy) payment – that e-car drivers would like to spend hours at motorway service stations for the duration of charging, sitting in waiting-room containers put up by well-known corporations until their car is “full”.

None of the e-car owners we spoke to, however, shared this opinion. Most of them would much rather use the charging time constructively and “fill up” their prized possession when they don’t need it anyway, for example, at work or at the shops.

3 Electric cars are not for the poor.

Anyone who goes ahead regardless and treats themselves to an e-car is also certain to be a welcome customer at the local shops – so much so that making a bit of an effort to “woo” him or her definitely wouldn’t go amiss, for example, with a charging parking space in the city centre where there’s otherwise no parking.

However, great thought has been given instead to figuring out how to discretely prevent someone from using publicly subsidised charging pumps without permission, for too long or even with vehicles made by foreign manufacturers – always mindful of the need to secure the earnings of the home-grown car industry.

In Germany, for example, “EU-standard” charging plugs based on German patents are just one of the consequences which are supposed to put the brakes on the unacceptably rapid expansion of electric vehicles.

2 Hardly any energy supplier...

...has ever undertaken anything outside its core business – and would clearly prefer to keep it that way.

Their entry into “electricity refuelling” for end consumers is proceeding in a correspondingly chaotic manner. Plugs and electricity types that are unfamiliar to the market; new investments carried out for reasons of status more than anything else - in exchange for state subsidies and to meet demand that is hypothetical anyway.

Rather than trying to take a pioneering role in the market for supplying upcoming generations of e-cars, incompatible billing systems and poorly conceived market positioning are the rule rather than the exception. Just one of the reasons why increasing numbers of suppliers from neighbouring countries are pushing into local markets and catching home-grown suppliers off guard in their “blind spot”.

4 The unprofitability of German charging

stations is factored right in from the start.

We’ve spoken to energy suppliers whose billing infrastructure costs were higher than annual turnover at the charging pumps.

And even if the fees could, at some point, actually finance free-standing “pumps”, the price would probably have to be so high that e-car drivers would no doubt rather fill up at a sponsored charging station at a shopping centre, at the fast-charging station provided by their employer or even, if necessary, at home overnight.

Our approach

At modern DC charging stations like those already installed by leading e-car manufacturers (only for their own customers, of course) and those that will be the standard for future generations of vehicles, it already takes just about as much time to “top up the tank” en route using a charging cable – a good 20 minutes – as it does to fill up with petrol using an ordinary pump. If, however, the battery has been sucked completely dry after 400-500 km, a good hour’s break is required: exactly right for shopping or a quick lunch on the go.

In spite of the fact that the initial costs (TCO) of about 300 thousand euros for a real-life, practical charging station of this type – still off-putting for many investors – actually lie far below the capital investment required for a similar type of petrol station, we’ve calculated that this investment would, nonetheless, already be viable within a short time frame – and, what’s more, even if nobody wants to “fill up”.

How to actually put this to work ? A comparison.

A traditional petrol station would find it hard to survive from petrol sales alone. The bulk of the profits are earned from “additional services” (car wash, magazines, bistro, kiosk, ...).

That’s why our blueprint for a marketable charging station of the future takes its inspiration from tried and tested business models for present-day filling stations.

A large part of our Hotbed team has a background in e-commerce. Having gathered hard-earned experience of “freebie” culture and low margins in that area starting as far back as the 1990s, we learned how to handle this years ago:

That’s why our charging concept offers electricity to vehicle owners at absolutely no cost (sparing everyone the whole billing palaver, including transaction fees for “micro-amounts”) and instead generates its - quite considerable – earnings from affordable advertising placed on the broad surface of the pump. The perfect mix of local shops and national marketers is ensured by an automated marketing platform, like those used for years now in the online world.



Not furniture – but still built for comfort

The question is whether modern fast-charging pumps would be more readily accepted if, instead of looking like a brushed aluminium colossus, such a charging station took the form of a sustainable design object (in no way aesthetically inferior to the products of a well-known computer manufacturer) and offered benefits to all city residents.

Examples include vouchers that can be activated directly from a smartphone, digital products for sale (e.g., ticket downloads), tourist information and tools for civic activism in the modern “smart city” – to name but a few. To find this out, product designer Nadine Kümmel retrieved an old term paper for us and adapted it to current market and technological requirements based on our specifications.

What emerged is a machine that not only demonstrates forward-looking zeitgeist on a purely visual level, but also fulfils the requirements of a pioneering method of propulsion in terms of robustness, handling and operational security. And because the future of inner-city transportation is, as we all know, multimodal and multimedial, this model can also be used by mobile phone users to charge their smartphones and by e-bike cyclists to recharge their bikes – electricity isn’t in short supply here, after all...



What this means in practice: Everyone should stick to what they do best.

Energy suppliers provide the electricity, bear the initial cost of investment, take on the technical maintenance and, in return, receive a generous proportion of the earnings.

Marketing-savvy **digital experts** design the machine, secure the earnings by monetising the advertising space and, if successful, receive a commission. Our team consists of IT, design and marketing specialists – all with more than 10 years' professional experience in dealing with advertisers and digital infrastructure.

The public appeal of the machines situated in the city centre gives **the respective city** a big advantage in its location marketing as a "future-oriented" metropolis. Thanks to external investment, it gets extremely inexpensive access to hardware for its own city information system, allowing it to provide effective support to local retailers, hotels and restaurants; and it gains an unconventional way of gathering feedback about current issues in the respective city quarter.

In return, the **city council** takes care of the things that it can achieve in a much more uncomplicated and inexpensive way than anyone else: planning permission, underground high-voltage cables and civil engineering activities (that is, electricity/telecommunication connections, concrete bases for the machines, ...), as well as visual on-site checks for vandalism (for example, as part of regular city cleaning and traffic surveillance).

E-car drivers can use the time spent charging to shop or have lunch, with offers presented on the display screen giving them attractive incentives to do just that.

And the **advertising companies** are not only happy to count financially sound e-car drivers among their customers, they also profit from absolutely premium advertising space – at down-to-earth prices – in the heart of the city. In addition, they're always in a position to fully control costs and monitor success thanks to the digital networking of the charging pumps.

Pragmatism from the tried and tested vs bastions and ivory towers

A rosy outlook then?

Not at all. Our concept is deliberately based on economically sound calculations and proven business models for promotional marketing in central locations with high levels of public footfall. However, when we first presented our approach to potential stakeholders, we came in for more than our fair share of criticism.

Many **energy suppliers** have already classified the simple necessity of having to actively "market" one of their products as an "incalculable risk".

Numerous **drivers** have also said that they don't need any additional inner-city charging stations:

They prefer going to "greenfield" shopping centres anyway where free parking is already offered in abundance *and* cheap refuelling opportunities exist as well.

City leaders would, of course, like to get the subsidies for putting up the charging infrastructure, but they don't want to "disfigure the inner city" with groundbreaking technological machines.

Besides, the stated long-term goal is to reduce the number of cars in the inner city, and therefore definitely not to tempt additional e-car owners into the centre.

Elsewhere, people are traditionally more open-minded:

For several years now, the young American company Volta Charging has been selling electricity for cars across the entire USA, from Hawaii to the east coast, in exchange for advertising in car parks attached to shopping centres and other temples of consumerism, with growing success and international recognition.



Jointly financed charging pumps have a great future ahead of them – just perhaps not necessarily here in Germany...