ETAP: FREQUENTLY ASKED QUESTIONS

The eTap

Finance

Mechanics

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THE ETAP

WHY AN ETAP

ELECTRICITY ON TAP

ELECTRIC VEHICLES NEED A CHARGE.

- With a range around 100 miles drivers will choose destinations where they can charge for longer journeys.
- Owners will need to top up when parked at work or out shopping to extend their range.

THE ETAP OFFERS A SIMPLE SOLUTION.

- Immediate return from the Feed in Tariff
- 6 Electric Vehicle chargers.
- Encourages Electric Vehicle (EV) drivers to park in your car parks and use your facilities.
- Easily expandable up to 32 chargers
- Easy to Use

On the 30th September 2010 there were 35 million registered vehicles. 56,024 of those have plugs!

Sales are growing rapidly with new models being introduced. Sales from 1 Jan to 20 April 11 were 2.6 times larger than the whole of the 2009/10. The Governments target - 2035 100% of all new vehicles sold will be Low Emission

From the Climate Change Committee's report "The Fourth Carbon Budget" the target is 1,700,000 Electric Cars on the road by 2020

Install an eTap now and get an extra 7% return for 25 years from the Feed in Tariff

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WHERE CAN IT GO

That's the amazing thing; the eTap sits ABOVE your car park, angled as close as possible South with a 30 degree pitch the eTap takes up no car parking spaces at all.

We can install an eTap anywhere where there is no shading.

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HOW MANY CAN I HAVE

The eTap has 45 panels with a Peak Power of 9.9kW. The Feed in Tariff for less than 10kw is 37.8p/kWh, above 10kW the Tariff falls to 32.9p/kWh. The Feed in Tariff is a 25 year contract between the owner and the utility company

To get this level of Tariff the eTap must be connected to an existing building which has its own rateable address and meter.

Our investors want 1 eTap per address.

If you are buying them then you can have as many as you like, we will advise how multiple installations will affect your income.

eTaps are bespoke and can be any size. We have chosen 6 as the optimum number for revenue generation v cost.

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WHY BUY IT NOW

There are a number of reasons why you should get your eTap now

- Income. The potential for charging income in 5 years time will be the same with or without the Feed in Tariff. Those who buy now will be getting an extra income for the first 25 years, over and above those who buy in 5 years' time from the Feed in Tariff

- More Income. People with Electric Cars will gravitate towards locations that can charge them, and then they will park up for 2 hours or more and do their shopping, eating etc. These are new customers and they will remember you when car chargers become more common.

- PR. The opening of the first eTap attracted a Government Minister. Stories of new car chargers and interesting solar installations are often appearing in local and national press. By being amongst the first to install an eTap you can also enjoy significant amounts of free and positive PR

- Destination Charging. Range Anxiety is all the rage, why not make yourself a destination for those who need a little extra power to get home

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LIGHTING

If you want lights below the canopy (recommended so that people can read the instructions and plug in, plus for that feeling of safety) we can install fluorescents. The host will pay for the electricity to run them and change the tubes when required.

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DO I NEED PLANNING PERMISSION

Yes. At the moment we will have to apply for planning for every eTap. Our surveyors will check the suitability of the site, create the bespoke plan and put in for planning permission.

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HOW LONG WILL IT TAKE TO INSTALL

As far as possible the eTap is made off site. Assuming full access to the site and appropriate power availability each eTap can be installed in under a week.

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WHAT IS THE eTap MADE OF

Essentially the eTap is a canopy constructed of steel. The roof is covered with solar panels, there is a false ceiling to protect the underside of the panels. The supporting legs which are clad with GRP for aesthetics and incorporate evolt© electric charging points.

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WHAT ARE THE TOLERANCES

The eTap is designed to withstand wind and snow loading to be compliant with building regulations. It has also been designed to withstand being hit by a vehicle moving at 30mph!

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WHO ARE USE THE SUN

Use the Sun are a family run MCS accredited installer of Solar Panels. We have assembled a team of experts to create the eTap with its sophisticated electronics and payment system.

Contact Charles Montlake ACCA PGCE
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FINANCES

HOW MUCH DOES IT COST

We can offer you 3 alternatives

1. We install the eTap free of charge.
    - You receive the free electricity generated
    - You receive rent of 40% of the charging income
    - We receive the Feed in Tariff
    - We receive the plug in charge
    - We receive rent of 60% of the charging income

2. You buy the eTap fully installed and keep all the incomes.
    - Every Car Park is different, the average installation will cost approximately £50,000 (plus VAT) fully installed and commissioned.

3. We set up a joint venture company in a ratio to suit you. *Only available for 5 or more installations.*

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WHY WILL WE PUT THEM IN FOR FREE – WHAT'S THE CATCH?

In the short term a return of 5.3% will cover the cost of capital required for the installation. In the longer term the potential return from the car chargers could easily double and redouble our return. We are looking at this for the long term.

We will pay you 40% of the hourly charge received. Assuming a sales price (pre VAT) equivalent to 21p/kWh, 40% represents 8.4p/kW.

If each charger is used for 2 hours a day that is 4,368 hours a year, at 3kW an hour that is 13,104kW a year giving you an income of £1,100.74/year for the space above your car park. As Electric Vehicles become more common that income will rise.

Against that you will need to offset the cost of electricity. With a predicted free generation of 8,500kWh/year a further 4,604kW would need to be purchased at an average cost of 7p/kWh = £322.28 leaving a profit of £778.46. That is on top of the normal cost of parking in that space.

We will continually monitor both the solar panel generation and the car charger usage. If there is a problem with the panels we will fix them. When the car chargers are being well utilised we may offer to increase the number of chargers available within the car park to increase revenue

The Feed in Tariff is a 25 year contract; we are looking for a 25 year lease with you, obviously with reasonable break clauses to protect us both

We will ask that you do not allow competitors car chargers to be erected within the nearby vicinity, say 500 metres or the same car park whichever is the smaller.

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WHAT DO I GET IF I BUY THE ETAP

If you buy the car charger you will receive

- The Feed in Tariff
- The Connection Fee
- The Charging Fee

Our sister company, eTap Finance, can collect the income on your behalf, charging fees are dispersed monthly, the Feed in Tariff quarterly

But there is more to it than that. You will also receive the great PR and custom from drivers. Imagine a driver who needs an extra 2 hour boost to make it home, what can they do at your place for 2 hours to while away the time? Eat, Shop…….

eTaps = more customers.

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HOW MUCH CAN I EXPECT TO EARN FROM THE PV

45 x 220 watt panels facing South at 30 degrees can produce 8,500kWh of Electricity*

Generation Tariff at 37.8p/kWh = £3,210. This is indexed linked for 25 years

Add to that the

- Export Income at 3p/kWh = £130.00 (The utility companies will assume that 50% of all electricity generated is exported)
- Saving – at say 7p/kWh = £600 a year

The total income is £3,340 a year, on £60,000 that is a return of 5.57%. Add in the saving on your electricity bill and the value increases to £3,440.00 (if you use all the electricity generated) giving a return of 6.57%

* The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location

and from year to year. This estimate is based upon the Government's standard assessment procedure for energy rating of buildings (SAP) and is given as guidance only. It should not be considered as a guarantee of performance

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CAN I PUT UP PV PANELS ELSEWHERE

If you own the eTap you can do what you like.

Where we own the eTap there will be a restriction on any installation that will affect our Feed in tariff

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HOW DO I GET PAID

The payments are made based on quarterly meter readings

If you own the eTap you have 2 choices

1. You can read the meter yourself (we can programme it to send you the reading over the internet) and claim the income
2. For a small fee we will make the claim on your behalf. This fee also includes us monitoring performance on a regular basis and reporting back if there appears to be a reduction in generation

If we have placed the eTap in your car park then we will monitor the performance and claim the FiT for our investors.

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HOW MUCH CAN I EXPECT TO EARN FROM THE CAR CHARGERS

At the moment there are very few plug in cars BUT the number of models on the market is growing substantially, The Climate Change Committee's report "The Fourth Carbon Budget" target is 1,700,000 Electric Cars on the road by 2020

If you own the eTap you can set the charges at any level you like. There will be a charge to plug in and then an hourly charge (at the moment we cannot sell electricity by the kW)

If you choose to use our Pay by Phone system there is a charge to plug in of about 35p (plus VAT) this includes taking the customers and the charger details, clearing the credit card payment and turning the charger on and off. Charging say £1 to plug in would leave a profit of

Plug in Charge	£1
VAT	£0.17
Credit Card Charge	£0.03
Pay By Phone Charge	£0.35
Profit	£0.45

Then there is the hourly charge. Assume that electricity costs 7p/kWh and that the current standard socket allows for a maximum charge of 3kw/h (this is due to increase to 7.7kW/h soon). A charge equivalent to 21p/kWh means an hourly cost of 63p plus VAT = 76p/h.

Hourly Price	£0.76
VAT	£0.13
Credit Card Charge	£0.02
Cost of Electricity	£0.21
Profit	£0.40

A 2 hour charge would cost the driver £2.52, an average of 42p/kw. Assume that the Nissan Leaf can travel 110 miles on 21kW then it can travel 31.5 miles on a 2 hour charge. At £1.33 a litre and travelling 50 miles to the gallon the equivalent cost in petrol would be £3.80.

Let's assume that each EV charges for an average 2 hours and that each charger is used 5 times a week. The annual (52 weeks) profit from 1 eTap would be

No of Chargers	6
Average Weekly Use	5
Average Stay (hours)	2
Plug In Charge Profit	£707.20
Hourly Charge Profit	£1,249.66
Total Profit	£1,956.86

If the driver stays for 3 hours then the average cost per kW will fall to 36.4p, profit will increase to

No of Chargers	6
Average Weekly Use	5
Average Stay (hours)	3
Plug In Charge Profit	£707.20
Hourly Charge Profit	£1,874.50
Total Profit	£2,581.70

The longer the driver stays the cheaper the fuel per kilowatt and the greater the profit.

When the eTap is used twice a day for an average 2 hours each time

No of Chargers	6
Average Weekly Use	14
Average Stay (hours)	2
Plug In Charge Profit	£1,980.16
Hourly Charge Profit	£3,499.06
Total Profit	£5,479.22

As the number of EV's on the road increase so will the income!

The owner can set the plug in charge and cost per hour differently for each eTap

ALTERNATIVELY

If you choose the option to have the eTap installed free of charge we will pay you 40% of the charging income.

This payment covers the cost of any electricity the eTap uses over and above the 8,500kWh of free generation expected from the Solar Panels plus a payment for "rent" of the area above the car parking space.

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PAY BY PHONE

Making payment simple is the best way to promote usage of the eTap. We are avoiding having separate prepaid RFID cards at every charger which will just lead to

confusion and the need to buy a lot of prepaid cards! Instead we are offering a Pay by Phone option which is slightly more expensive but far simpler and more efficient to use.

When the driver arrives at the eTap for the first time they will be able to identify the eTap (by unique reference number), choose their charging time and pay by credit card. Once they are registered as an eTap customer this process will be simplified as the credit card will be connected to the phone number.

To make it simpler still we are developing an "App" for smart phones.

As eTap numbers and EV drivers multiply we believe the drivers will seek out eTaps because they are so simple to use.

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eTap FINANCE

Collecting the Feed in Tariff and car charging revenue could be quite onerous.

We have set up eTap Finance specifically for this purpose.

Using our merchant accounts and volume discounts we can offer to collect the charging revenue on a daily basis and make payment to you once a month, simplifying the collection. We will deal with any customer complaints and maintenance arising. Fees will be 50p for each "plug in" (includes Pay by Phone Charge) plus 6% of the total payment (includes Credit Card Charges).

We will also claim the Feed in Tariff for you every quarter for a fee of 5% of the income.

The biggest advantage of using eTap Finance is that your customers will be recognised as eTap customers simplifying the payment process that is common amongst all eTap users

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HOW DO I GET PAID

Car Charging

There are a number of options.

If you buy Outright

1. You can use your own payment system
2. We can put you in direct contact with our Pay by Phone supplier who can make the arrangements

3. We can collect the payments on your behalf through our sister company eTap Finance Ltd for a small fee and pay them directly to you once a month.

If we own the eTap

1. You will receive 40% of the Hourly Charging Income once a month

Feed in Tariff

Every quarter the meter must be read and the reading sent to your utility company. Payment is normally made about 2 weeks later, again you can do this yourself or eTap Finance will do it for you

If we own the eTap

We will calculate your monthly fee from the charging and pay directly to you with just one monthly statement

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WHAT ARE THE ANNUAL COSTS

- The car charging units have to be certified annually, £50 each, total £300 a year
- The eTap has 2 sim cards for reporting purposes, cost approximately £120 a year.

The eTap should be kept clean. During a prolonged period without significant rain it would be an idea to wash the panels. The Inverter is best left to its own devices and should last about 10 years.

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MECHANICS

HOW DOES IT WORK

Solar PV

45 Solar panels connect through an inverter in to a distribution board. This offers a potential 8,500kWh of Electricity generated FREE every year. An OFGEM approved meter reads the production and reports back the total generation on a regular basis.

Car Chargers

6 evolt car chargers are connected to the same distribution board. When the panels are not generating enough electricity they will draw what they need from the National Grid to ensure a consistent supply of electricity to the vehicles.

Connected to our control hub through GPRS we can turn the chargers on and off and record exactly how much electricity they have dispensed and how often they are used. As the chargers become more fully utilised we can add more chargers.

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WHAT HAPPENS WHEN THERE IS NOT ENOUGH SUNLIGHT TO POWER THE CHARGERS

The solar panels are connected to a distribution board that is, in turn, connected to the hosts distribution board.

When the panels are making more electricity than the chargers require the excess goes in to the hosts property, without going through their meter

When the chargers need more electricity than the panels are producing they will draw their requirement from the grid

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WHERE IS THE TECHNOLOGY GOING

At the moment there is some dispute over the socket for the car chargers. It looks likely that the Menekes© Level 2: 7.7kw system will become the standard but for the moment all cars in the UK are being fitted with a 3 point 13 amp plug.

Our canopies will be cabled to take the 7.7kW charge although initially fitted with the 13amp plug. As soon as consensus is reached the sockets and hardware can be easily updated.

6 x 7.7kW chargers can draw 46.2kW, plus other equipment and we require that at least 52kW (23amps) can be drawn from the existing distribution board before we will install the larger chargers.

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MAINTENANCE

The eTap is a low maintenance installation. Whoever owns it we will ask you to keep it clean.

The panels come with a 25 year warranty and the inverter with a 5 year guarantee. Both are probably best left to their own devices. For eTap finance customers we will be monitoring the performance of the PV array on a daily basis.

The inverter will probably need changing at some point during its life

The Chargers have to be checked annually. The charge for this is £50 per charger.

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HOW MUCH DISRUPTION WILL THERE BE DURING INSTALLATION

For Health and Safety reasons we will have to cordon off an area around the installation. We will make every effort to reduce disruption to normal flow as much as possible and to clear the area as quickly as possible.

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WHAT DO I HAVE TO DO

You must ensure we have vehicle free access to the area.

We need access to a suitable power supply. Ideally you will lay a single cable from your Distribution Board to the eTap site. If required we can arrange for the cable to be installed; there will be an extra charge based on distance and the cost of reinstating the car park.

You must ensure that your distribution board is able to supply the necessary amount of power required

- 6 * 3kW chargers 22kw
- 6 * 7.7kW chargers 52kW
- Expansion, add 8kW per charger

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WHAT POWER NEEDS TO BE AVAILABLE

The number of chargers will be limited to the amount of Electricity available.

6 chargers at 7.7kW (plus communications unit, lights, etc) will need a supply of 60kW. If you want the system to be expandable to 32 chargers then the supply will have to be capable of handling up to 320kW. This can be cabled from the outset or added later.

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WHAT HAPPENS WHEN IT GETS DAMAGED

The structure is made of solid steel and is almost indestructible from normal ware and tear. If the structure is hit by a fast moving vehicle it may well be damaged. The cost of repairs will be met by the owner

The cladding on the legs comes in 3 sections. Drivers will inevitably hit them while parking creating scuffs and cracks, much of which will wash off with a mild detergent. But if the cracks are serious the sacrificial lower section can be changed very reasonably.

The car chargers are designed to be kept outside and are robust. They can be easily changed if broken as a result of mindless vandalism, the cost to be borne by the owner.

The panels are protected from below, to break them someone would either need to get above the canopy or be able to drop a heavy weight from a reasonable height on to the canopy or break through the false ceiling. Again it is down to the host to have their own security and they will be liable for any replacements. Panels should last 25+ years if left untouched.

The workings are within the eTap and have to be accessible for maintenance. Again mindless vandalism is the expense of the owner.

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WHAT ABOUT VANDALISM

We have done everything we can to protect the eTap but we cannot stop those who are determined to destroy.

Normal security measures should ensure that vandals will not have the time to create significant damage.

The option to have lighting underneath the canopy should also help to deter vandals

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