Self-Energy

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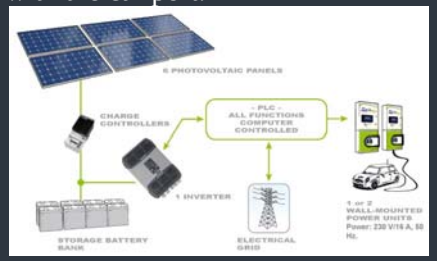
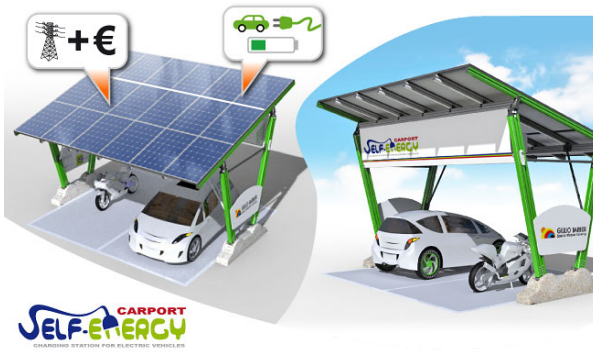
Solar Carport

A charge controller energises the batteries with the power supplied by PV panels.
The system comes with either a 12, 24, 36 or 48volt 145Ah battery bank, the batteries are monitored, so that they never dip below a 70% DOD. Energy to recharge the EV is supplied via an inverter that takes energy from the batteries, which are limited to a 70% Depth of Discharge which extends battery life.
Should demand for recharging exceed the available battery capacity, the EV is charged directly from the grid.
A Programmable Logic Controller - PLC – manages the entire system, supervising the consumers' requests for power, from either of the two charging stations that come with the car port.





Now here is a good idea, out of Ferrara Italy comes a modular all aluminium carport that doubles as an EV charging station.
The system called "Self Energy" is designed to provide either 3 or 4.5kW of Solar Energy to recharge your average electric vehicle. Primarily intended for town planners to have installed in the local supermarket car park the Self Energy range are designed for foundationless installation making retrofitting a breeze for just about any location you like.
The system is great for the likes of drive and drop EV's in major cities – ie. Pickup an EV at the airport, do your daily drive then park the vehicle under the Self Energy carport for the evening ready to go again in the morning.
The technology incorporates either a battery backup that stores the excess energy produced during the day and recharges the EV batteries at night, or simply grid feeds during the day and provided off peak mains charging at night from the main.

EV Focus

Charging time is claimed as 3 to 4 hours from the optional 240volt (US) charger. The charger itself is installed after a site inspection to best position the unit, by the Best Buy Geek Squad for Leviton who designed the charger for Ford.
I must hand it to Ford, they have gone in boots and all for the Techno brigade with smart phone apps that allow you to interrogate the vehicle for state of charge, schedule charging times, where your closest charge point is, or even pre-warm the car while attached to the mains to relieve battery load prior to driving, all from your mobile. It even shows the owner the amount of CO2 and money saved by driving the Focus.

Ford Focus All Electric

The electron fueled Ford Focus is set for delivery in outlets in California, New Jersey, and New York – 67 in all – with about six cars each winding up on the sales lots, one Focus EVs per dealership is to be kept as a demonstrator.
The Focus is powered by a 24kWh high voltage lithium ion battery pack that is has its own climate controlled liquid management system that is designed to keep cell temperatures constant in a science claimed to extend battery life.
A single motor drives the Focus from 0 to maximum of 140kmh via a single speed transaxle especially manufactured for EV use and able to take the high RPM and constant 320Nm of torque from the 190kW AC motor.
Regenerative breaking is reputed to be able to capture over 90% of breaking energy and recycle it back into the batteries.
One interesting sales pitch is Fords "It's as easy as charging your mobile phone", not a bad mental picture for those with an aversion to battery technology.

RAPTOR

Ecospin Raptor three-wheeled electric personal vehicle (EPV) is ready to roll. Designed for security personnel, the police, postal workers, theme park staff, event management firms and airports, the vehicle is said to be the first of its type to meet the stringent approval requirements for road legal status in the UK. The rear-wheel drive Raptor benefits from hot-swappable battery packs to allow for round-the-clock patrolling, and can get up to a top speed of 25 mph (40 km/h).

The Raptor can house up to three hot-swap 48-volt Li-ion battery packs for a total range of 95km, and features motorcycle-like hand controls with a twist grip throttle for power and brake. The Raptor is powered by two 2kW brushless DC motors driving the two rear wheels. Leicester-based Ecospin reports already receiving interest from the Metropolitan Police, the East Midlands Airport and Birmingham Airport. A base Raptor is priced at $9,900, but is not being made available to the public at this time.

eHighway

Siemens is currently testing a possible heavy transport electric solution in Germany that's based on proven railway and tram technology but has been adapted for trucks on roads. Heavy goods vehicles have been fitted with a newly-developed pantograph that can automatically raise to meet overhead cables and transfer electric power to hybrid diesel/electric power trains. Energy recovered from regenerative braking can also be fed back into the system for re-use by other vehicles.

The Siemens eHighway concept, announced at the 26th Annual Electric Vehicle Symposium in Los Angeles in early May, is a two part system. The first involves the rollout of a two pole catenary system along one or more highway lanes on freight transport routes that caters for two-way electricity transmission and ensures a reliable power supply by feeding the overhead wire via container mounted substations.

The test vehicles have been retro-fitted with diesel-electric power trains, where the truck is always powered by an efficient electric motor but when in diesel mode, the vehicle's engine powers a generator, which in turn drives a downstream motor and turns the tail shaft. When traveling under eHighway electric power, the vehicle is driven by the electric motor only; as such the driver is not aware of the transitions between different drive modes.

Moving beyond the proof of concept, schemes for the electrification of ports are already being considered but the solution has great potential for expansion to service inner city major arterial routes where the electric power needs of pure battery electric vehicles can be met for the commute to and from work.

The Shape of Things Now??

Renault Zoe

From Renault comes an all electric hatch powered by a 65kW, 220Nm motor with a "real world" range of around 100km in cold weather and 150 kilometres in more temperate conditions.

A recharge for the Zoe's lithium-ion battery pack can be completed in just one hour at a dedicated Better Place recharge station.

All-in-all, the Zoe's output and performance are largely par for the course. What truly sets the Zoe apart, however, is its cost. In France, where the government offers an AU$6200 tax incentive, the Zoe starts at around AU$19,000. In the UK, with an $AU6450 incentive, the Zoe can be had for around AU$20,000. Australian price however is earmarked to be a shade under $40,000 plus a 36 month contract with Better Place for the battery pack at approximately $98 per month. Included in the contract is 12,500km of comprehensive roadside assistance as well as replacement batteries. Renewing the contract also gets you a new battery set.

This Month's Q&A Technology Tip

Q: What's the latest in the world of batteries?

A: Although not new Hipower New Energy Group from China are producing LiFePO4 cells from 18650 cylindrical format to 500Ah prismatic units. Size and shape are similar to Winston and Sinoply although they do provide a 5-8C higher discharge model of several of their range. Additional products include BMS systems, chargers from 24 to 400v DC output and 12volt Li car type batteries.

http://www.hipowergroup.com/