

# Panacea-BOCAF On-Line University

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## Overview

Commercial electric vehicle technology is currently as of 2009 still subjected to [political and economic conditions](#) (suppression) or Interference and. 4 different 100% electric cars have been scrapped and suppressed previously. Honda, Nissan and Toyota repossessed and crushed most of their EVs, which, like the GM EV1s, had been available only by closed-end lease. The production of the Citroën Berlingo Electricque also stopped in September 2005.

Plus - GM Ovonic produced the NiMH battery used in the second generation EV-1, and Cobasys makes a nearly identical battery (ten 1.2V 85Ah NiMH cells in series in contrast with eleven cells for Ovonic battery). This worked very well in the Saturn EV-1. It remains a viable and practical solution today, as far as a superior alternative to the lead acid battery. However, for non-technical reasons neither company will provide their NiMH battery for automotive applications - a policy strictly enforced. Moreover, GM now owns patent(s) on some proprietary technology and processes used to manufacture this type of battery. Therefore no other company can produce a similar battery (with capacities large enough for electric vehicle propulsion) without infringing GM's patents.

*So, despite its technical success, unless GM will change their position on the issue NiMH traction battery technology, it is considered a dead end. In light of the latest developments in lithium based battery technology and patent issues of NiMH, lithium will most likely represent the future EV battery type. [Source](#)*

A story shown in late 2008 reported that the founder of a Canadian-made, 100 per cent electric car says the federal government is blocking him from selling his cars in Canada.



Taken from [the News story](#)

The science of electric vehicle technology is already validated, proven and applicable to ALL vehicles TODAY. Given these facts, why are there still hybrids being made? **Why is there STILL no LEGAL legislation for subsidies, endorsement and carbon credits for electric vehicles?** Once the [California Air Resources Board](#) erected a local mandate to take on big oil and those under their sponsored political legislation, plus make them accountable for their pollution and subjugation.

**The end results was the killing the electric car(S).** There are specific reasons for this; SOME of them have been detailed by EV1 Service Technician Bob Sexton who explains how the electric car's "regenerative braking system" works, so that, when the driver eases up on the accelerator, the engine slows the car down.

As a result, an electric car's braking system never needs to be serviced. Many argue that the "disruptor" effect of a car that hardly ever needs parts and service (because it has no engine) threatens the car industry more than anything. Of course, consumers would benefit. Bob explains about all the different mechanisms that a gas engine requires that the electric motor doesn't need, such as tailpipes, mufflers, or a catalytic converter. This is from the film "[Who Killed the Electric Car](#)," directed by Chris Paine.



<http://www.youtube.com/watch?v=zJEPLc58IIM>

It is going to take more than one local mandate to get electric vehicles to the public IN REAL TIME and over the political and corporate line. **Today as of 2009 the public remains un-aware to the extent of this problem.** Or that [hydroxy](#), [Air compressed motors](#), the [Solar Taxi](#), and the [GEET](#) technology can all produce less to no emissions and give better fuel economy over regular gasoline vehicles TODAY. **Please review Panacea's [fuel saving vehicle modification](#) document for both a legal and practical way to address this situation.**

In the mean time where does that leave the public? WE THE PUBLIC must lay more ground work for DIY (do it yourself) electric car conversion guides which can create SECURE options for the consumer to convert to electric.

**A commercial garage project for DIY electric car conversion can also be community run and supported by local parliament to help the general public convert existing technology. A group of mechanics could devote a service in each city exclusively for this. Due to the CURRENT corporate and political climate, we must take on this initiative and FIGHT for our freedom on this issue, history not only repeats itself but is a sobering reminder of how bad things really are. Please review the [EV suppression cases](#) to understand this.**

Panacea intends to work towards the creation of instructional videos/education programs and to provide the medium for public pressure which can be used to help educate and train the public mechanic's for further progress.

**The following Panacea university course resource can be used for this task in the mean time. Many unique individuals have taken the incentive to perform and detail DIY (do it yourself) conversion guides [which TODAY can be presented to your local mechanic/politician.](#)**

Panacea wishes to support and dearly thank them for doing this outside of government endorsements, subsidies or carbon credits, and, not to mention a lack of conventional education/training. Yet they did it!! Here is an example of individuals who through their DIY EV conversion have taken more CO2 off the road then the government and corporations.

**[Recent examples of DIY electric car conversions](#)**

### CLEAN POWER: motor Bike by Dieter Horstmann,



CLEAN POWER: Proud owner Dieter Horstmann, from Tyagarah, with his Polish-manufactured Vectrix electric motorbike.

*AN ELECTRIC motorbike that costs around 63 cents to charge and goes from zero to 80km/h in six-and-a-half seconds is here. The bike is owned by Byron Shire identity Dieter Horstmann, and is one of the first to be registered in Australia. The electric engine is charged by plugging it into a standard 240 volt power supply. The bike itself produces no CO2 emissions. –[Source](#)*

### The Blade runner electric car

*Petrol prices are skyrocketing and the skies are clogged with smog. But in the Victorian country town of Harcourt, Ross Blade has come up with an audacious plan for Australia to kick the petrol habit.*



*Ross and his mechanic Richard start with a standard combustion-engine-driven Hyundai Getz, and then they gut it. You've got your engine. The other components that come out, you've got your exhaust system there's quite a bit of weight in the exhaust system. [The] Radiator as well," Ross said. That makes the vehicles a lot lighter, and now all they need is power. –[Source](#)*

### World's fastest street legal ELECTRIC CAR 1972 Datsun 1200 White Zombie



[World's fastest street legal ELECTRIC CAR](#)

Additionally, there are R and D engineers in the open source energy community who intend to make an efficient H2EVair - a 100% water powered vehicle. Open source engineers release these instructions FREE for all to replicate. None of these engineers are endorsed by any faculty or government. Currently the open source engineer behind the [Smack's boosters](#) has had to rely on all proceeds from his hydroxy booster sales and donations to go towards the development of this H2EVair - a 100% water powered vehicle. This has not enabled him to complete the project.

Why hasn't the DOE (Department of energy) or Australian CSIRO made these yet? They are allocated millions of dollars in revenue to work on better technology. Yet it is the open source engineer who has come up with the technology on NO budget. THERE IS NO EXCUSE THE PUBLIC MUST NO INTERVENE.

Is there an EV course available at current universities? NO? WHY AND WHAT CAN WE DO NOW TO ENFORCE THIS NOW AND TODAY? Even generic modification to cars which can cut the carbon foot print are still today not known, ENDORSED/SUBSIDIEZED and supported by government and faculties.



Fuel efficient modified Honda civic - [Source](#)



In one example look at the concept of a solar sterling engine which can be used for EV's to keep them charged for longer.

*Dean Kamen Unveils Stirling-engine Extended Range Electric Car -9 November 2008. [UnionLeader](#). Inventor Dean Kamen has unveiled a prototype extended range electric vehicle, the Revolt, which uses one of DEKA Research's Stirling engines as a range extender. ([Earlier post](#).)*

*Based on an Think City electric car, the 2008 DEKA Revolt two-seater offers about a 60-mile range on a single charge of its lithium-ion battery pack. The Stirling engine range extender is fitted into the truck compartment.*

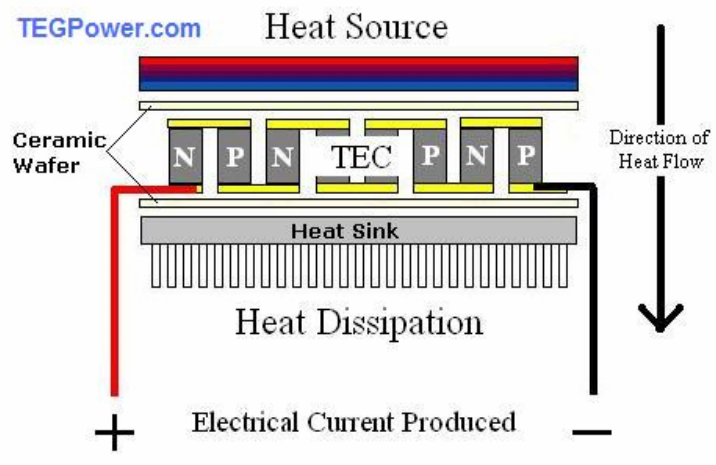
*Kamen said he is in discussions with Think Global over the use of the Stirling technology, but hopes that they will be the first of many automakers to adopt the technology. Kamen hopes a production version could hit the market in two years.*



A DEKA Stirling engine. [Click to enlarge](#).

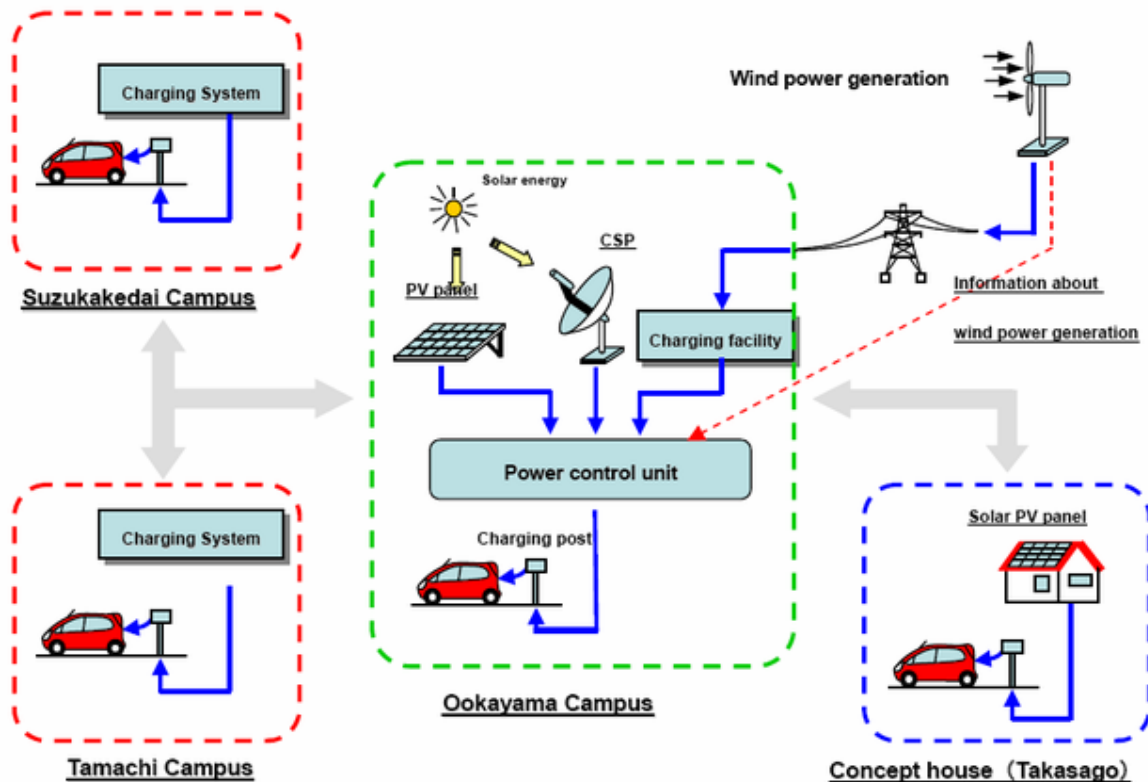
*Stirling engines are external combustion engines, using a heat source external to the cylinders for the conversion of heat energy to mechanical energy. The DEKA Stirling can use a range of fuels. -[Source](#)*

Also Sterling engines have a heat sink, you could also recover more energy from using a [thermo electric effect](#) (BMW are currently experimenting with using this effect on their exhaust to replace the alternator).



The infrastructure for existing fuel stations to convert to a solar EV charge can prevent the argument of range for EXISTING EV technology. In other words a typical fuel station can have an EV charge there to solve the range issues. The infrastructure already exists.

## 【EV Charging Infrastructure System】



[Source](#)

Given the efficiency reports by the electric car and [OTHERS](#), this technology is an invaluable power management process which the mainstream faculties must benefit from. **As an emission cutting device and power savings device alone, the electric car technology and others mentioned above justifies (and needs) law for its mandatory implementation.**

The nonprofit organization Panacea-BOCAF intends to support open source engineers working with the EV and other suppressed clean energy technologies. These engineers require grants, resources, faculty recognition and security. All this can be created in [Panacea's proposed granted research and development center](#). For those able to help this effort, please [Contact us](#).

## Description



An example of Tesla's reported Pierced arrow electric car which allegedly ran from [Zero point energy](#).

*There are records on the internet about Tesla and a 1931 Pierce Arrow. Apparently, he installed an 80 hp electric engine and drove the car for a week on radiant energy at speeds up to 90 mph. The information was relayed by his nephew, Peter Savo, to Derek Ahlers after Tesla's death. -[Source](#)*

The reasons why one should buy, convert, or build an electric vehicle today is simply because next to compressed air cars EV's remain the cleanest, most efficient, and most cost-effective form of transportation available.

The limitations of the technology which were first thought to be range, top speed, and cost are no longer an issue. A basic electric vehicle consists of a rechargeable battery that provides the energy to drive the motor, an electric motor that drives the wheels, and a controller that regulates the energy flow to the motor.

**The electric motor will always be able to produce TORQUE before the internal combustion motor hence why an electric car can beat an internal combustion motor.** It does not matter whether it's pulling, pushing, lifting, stirring, or oscillating, the electric motor converts electrical energy into motion more efficiently, quicker and not to mention quieter :). -[Wrightspeed X1 Electric Car beats Ferrari and Porsche](#).

Electric motor's main trait is the reliability. Because of its simplicity regardless of type, all electric motors have only basic components: A rotor (the moving part) and a stator (the stationary part). it has only one moving part. **If you design, manufacture, and use an electric motor correctly, it is virtually impervious to failure and indestructible in use.**

The conversions described in this guide are a basic example of others projects to get one started. There are enough resources contained in the links section to acquire further information. There are also basic discussions of what type of motors to use in the replication section. Later in this course, there will be types of motors used, costs and advice added into the faculty section. Please check back later in 2009.



## Replication

The following are examples of individuals who have done DIY guides to help benefit the public. Please take some time to thank them if you use this information.

### Gav's Electric Vehicle Conversion



<http://www.youtube.com/user/cant7think7clearly>

<http://www.kiwev.com/>

### Charlie Mcrickman 73 Opel GT Electric Conversion



<http://mcrickman.com/>

<http://www.youtube.com/user/mcrickman>

### Brian Blocher's Honda S2000 Electric Vehicle Conversion



<http://s2kev.blogspot.com/>

[Panacea PDF for Back up- Brian Blocher's EV Honda](#)

[Ben Nelsonâ Electric Motorcycle](#)



This can achieve the Equivalent to 300 miles per gallon!

[Panacea PDF for Back up - Ben Nelsonâ Electric Motorcycle](#)

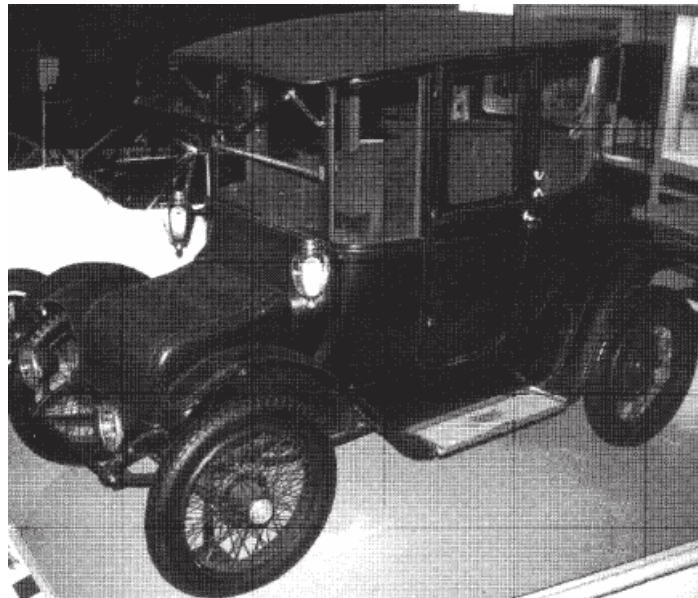
**Electric VW Bus**



<http://electricbus.blogspot.com/>

Replication links are provided in the links section at the end of the document.

## Faculty information



Mrs Henry Ford's EV on display at the Ford museum

Permanent magnet motors By Bob Boyce

For years, the most efficient motors were PM (permanent magnet) DC in nature. Though they were most efficient, they were efficient over a fairly narrow RPM range. If you wanted a broad torque vs RPM range, it required a much less efficient series wound or shunt wound DC motor. Until the development of the Lynch design, all conventional PM motors suffered from this affliction. This is why most of the larger DC motors that you will find used for golf carts or electric forklifts are series wound or shunt wound. It is typically these electric forklift motors that are used for most electric car conversions.

Lynch motors, such as the Briggs & Stratton Etek, can be hard to find, and /or expensive nowadays. Back when I ordered my custom Etek, they were very reasonably priced. I paid less than \$500 new for mine, shipped to my door. Since then, multiphase AC motor controllers have come a long way. What once was very expensive has become more affordable. Now it seems there is a better and still highly efficient design, similar to the Etek, but instead of using brushes, the motor uses a BLDC (brushless DC ie multiphase AC) PM design.

If you can, you may want to look for an older Toyota Prius hybrid. The dual motor / generator PM 3 phase AC series / parallel hybrid drive system in those cars is excellent for efficiency. If you have a choice, for optimum efficiency, look for a 2001 to 2003 model, with the 2003 being the best choice due to being the first model year with the new higher efficiency NiMH battery modules. With the new body style in 2004, they made further changes to the battery (dropped the watt-hour capacity) and control system (step-up inverter) that resulted in a loss of electrical efficiency, which they had to make up for in other ways. You may be able to find a repairable wreck, or at least be able to salvage the entire driveline and wiring harness / control systems to transplant into another vehicle.

I am using this approach now. I only wish I had been able to do these years ago, as it would have saved me a lot of time and money spent on EV parts that I already bought. -End

### **Faculty links**

[An electric plan for energy resilience](#)

### **Video's**

<http://greencarvideos.blogspot.com/>

[VEP: Electric Vehicle](#)

[Greg Rains Media](#)

[RebirthAuto.com 96 Volt Kit in a 1965 EV VW Beetle Drive](#)

[Magnetic hybrid motorbike unveiled in Japan](#)

## **Technical support forums**

<http://www.diyelectriccar.com/forums/>

### **Links**

<http://www.evalbum.com/>

<http://www.diyelectriccar.com/>

<http://www.metricmind.com/>

<http://www.evalbum.com/>

<http://grassrootsev.com/>

<http://www.evadc.org/>

<http://www.electroauto.com/>

<http://www.cafeelectric.com/>

<http://www.ev-america.com/>

<http://www.electricvehiclesusa.com/>

<http://cyclesantamonica.blogspot.com/>

<http://www.think.no/>

[The Top Ten electric vehicles you can buy right now \(for the most part\)](#)

<http://cbs2chicago.com/local/zanis.dream.car.2.746733.html>

### **Replication links**

[AC Propulsion Provides Power for 500 New Electric Vehicles](#)

<http://www.diyelectriccar.com/forums/showthread.php/want-build-ev-do-starti-6441.html>

<http://www.evalbum.com/build>

[Canadian Electric Vehicles](#)

### **Series wound DC motors:**

[http://www.everything-ev.com/series-wound-c-65\\_77\\_94.html](http://www.everything-ev.com/series-wound-c-65_77_94.html)

### **EV Parts:**

<http://www.geocities.com/MotorCity/Downs/4214/links.html#EV%20Parts>



**ROBOTICS: Powerful BRUSH PM DC motor:**

<http://www.robotmarketplace.com/products/EMS-PMG132.html>

**3PH with all kit (brushless, full stuff):**

<http://www.robotmarketplace.com/products/ETK-ETEKBL250.html>

**Variable Reluctance motors**

<http://www.sdrives.co.uk/ivt-system.shtml>

<http://www.sdrives.co.uk/>

<http://www.rockymountaintechnologies.com/images/Pricelist%202008/SR%20Motors%202008.pdf>

[http://www.electrostandards.com/images/user/File/rand\\_articles/driven\\_2551-02.pdf](http://www.electrostandards.com/images/user/File/rand_articles/driven_2551-02.pdf)

**Commercial electric cars**

<http://www.teslamotors.com/>

<http://www.zapworld.com/>

<http://www.zenncars.com/>

<http://www.elbilnorge.no/>

<http://www.revaindia.com/>

<http://www.gemcar.com/>

<http://www.inhabitat.com/2008/06/24/transportation-tuesday-antro-solo-gets-150mpg/>

[Antro Solo gets 150mpg](#)

<http://www.valentrain.com/>

<http://www.engadget.com/2008/06/26/modded-electric-motorcycle-is-street-legal-costs-under-2/>

<http://web.mac.com/benhvideoguy/cycle/Welcome.html>

[Meet the Vectrix Electric High Performance Scooter](#)

<http://www.aptera.com/>

Solar Bug - <http://www.freedrive-ev.com/>

[Have you driven a Fjord lately?](#)

[Electric motorbike a clean, green alternative](#)

## **Credits**

**The open source energy community!**

If you are able to contribute to this document in ANY way, IE- replication details, faculty info and or additional data please contact the nonprofit organization.

<http://www.panacea-bocaf.org>

<http://www.panaceauniversity.org>