

“YOU Can Turn WATER into FIRE!”



YOU CAN TURN WATER INTO FIRE

“Unleash the power
of the worlds most abundant resource.”



JEFF SOKOL

Copyright © 2009 MCN: CVFB8-U4WLA-EUW8X

by Jeffrey D. Sokol

Safe, Simple and Inexpensive Ways Burning Water can be Applied to Your Home and Business. You can:

- Eliminate Acetylene from Your Business and Burn Water Instead
- Increase Diesel and Gasoline Fuel Efficiency
- How Cap & Trade can actually BENEFIT your Business with HHO Gas
- Heat your Home and Cook by Burning Water, NOT Propane

Read this First Regarding SAFETY

HHO Gas is a wonderful gift of water, not a toy. Water is docile, but HHO gas is not! Please respect it, and wear protective eye wear when handling HHO Gas. With respect, it can be a great friend to your business, but mishandling HHO can get someone hurt. The gas is Hydrogen and Oxygen mixed in perfect ratio, so it is explosive if compressed. Use HHO gas ONLY on demand, and never compress the gas. HHO is a wonderful tool, and has many beautiful properties that can benefit your business, home, and humanity. Use proper HHO safety equipment, and have fun! By reading this book, you acknowledge that HybridTech Energy is not responsible for any mishaps, accidents, or incidents due to the use of HHO gas. With proper safety precautions, you can safely use HHO gas for many years to come with no serious accidents. We recommend consulting a safety professional before experimenting with HHO gas.

Forward:



Cutter and I at Granite Lake, Colorado. What did you expect? A lab coat? Not on me partner...

Can you turn water into fire? Immediately, many people would say “What the *heck* are you smoking?” No seriously, I’ve heard that! However, we specialize in doing exactly that very thing. My name is Jeff Sokol, and I am the President of a company called HybridTech Energy.

Our main focus at HybridTech Energy is to help make businesses to become more environmentally friendly, while saving them money at the same time. Yes I know, sounds like a novel concept right?

Because everyone knows, that reducing emissions and greenhouse gases costs tons of money, isn’t this correct? This used to be true, until companies like mine came into the business arena.

The purpose of this book is not to promote our business, or the businesses of my friends or colleagues. No, the purpose of this book is to help you see the future of energy, and that future is hydrogen, the most abundant and powerful resource in the universe.

We will discuss ways that your family and your company can utilize the new wave of energy technology to reduce emissions, increase fuel efficiency and save you money all at the same time.

This technology, takes regular distilled water and turns it into a highly flammable and powerful gas called oxy-hydrogen, Brown's Gas or HHO Gas as it is more commonly known. So, how is this gas made? Through a process you may have seen in high school chemistry called Electrolysis. Electrolysis is basically a big word for using electricity to separate water into the two basic elements of which it is made hydrogen and oxygen.

I ask you to read this book with an open mind. Many people have been conditioned to say ignorant things like, “You can’t rewrite the laws of physics!” We are not trying to, however, please keep in mind that we’ve gone to the moon, created air planes, and made countless discoveries since the “laws” of physics were written. In the case of HHO gas, we are using electricity. In many cases, we have been able to use simple physics to make extremely efficient machines that take very little power, to produce enough HHO to power an automobile! I am not writing this book to debate whether these are facts or not. I would much rather explain where these HHO discoveries came from, how they work, and how you can save money by using HHO gas in your home and in your business!

This book was written to popularize HHO gas, so the world knows the abundant FUEL RESOURCE we have at our fingertips, all over the world. Throughout the rest of this book, you will discover ways in which HHO gas can help in many areas to reduce emissions, and cut costs from your life.

What if you never had to buy natural gas, oil, or electric heaters to heat your home again?

What if I told you, that you could increase fuel efficiency on any internal combustion engine, by up to 50 percent or more?

If I told you, you could completely eliminate acetylene, MAPP gas, or propane from your torch operations in your business, would you believe me?

The fact is, these are very simple and common ways to save money and you will be introduced to them here.

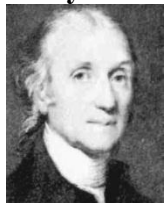
Please share this book with your friends and family when you are finished reading. My concern is for the information, to get out into the world so the entire planet can benefit from the very abundant resource that is, HHO gas.

History of HHO Gas (Brown's Gas)

All Photos from pages 3 – 6 were taken from www.BrownsGas.com. Retrieved January, July 2010

There were almost two hundred years between the discovery of hydrogen and the true development of its potential. Even now, we still have some distance to go before we can fully benefit from everything this gas has to offer. In the meantime, it's useful to place hydrogen in perspective, and to trace its history from the middle of the eighteenth century onward.

Early Years



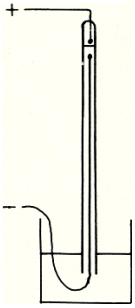
In 1766, the British scientist Henry Cavendish (1731 – 1810) discovered a gas that he named “inflammable air.” In his paper, “On Factitious Airs,” Cavendish described the gas and how it created water following combustion.



In 1783, a Frenchman, Antoine Laurent de Lavoisier (1743 – 1794), read Cavendish's paper with interest and successfully copied his experiment. Like Cavendish, he created an inflammable gas, and gave it the name we know it by today: hydrogen.



Elsewhere in Europe, the Dutch scientist Martinus van Marum (1750 – 1837) was conducting electrical experiments. By using a process of electrolysis, van Marum formed both oxygen and hydrogen. He also found he could explode this mixture with a spark of electricity.



This random approach to hydrogen's discovery continued for the remainder of the eighteenth century. One of the most notable steps forward, however, occurred when two Dutch scientists, Paets van Troostwijk and Joan Rudolph Deiman, established in 1789 that water has two parts hydrogen and one part oxygen. We now commonly refer to this combination of elemental gasses as Brown's Gas or HHO gas.

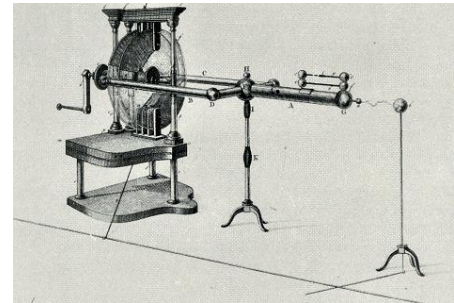
Nineteenth Century

The following century saw scientists build on these early discoveries and start to use hydrogen for commercial purposes.

In 1803, Robert Hare made an oxy-hydrogen blowpipe; and in 1826, Thomas Drummond built his "Drummond Light", also known as "Limelight".

The "Drummond Light" harnessed the bright glare that appeared when Drummond directed an oxy-hydrogen flame at a calcium oxide cylinder.

Oxy-Hydrogen Blowpipe



In other words, Drummond created light from Brown's Gas and calcium oxide.

Such developments didn't escape the notice of scientific commentators and writers. In "The Mysterious Island," **Jules Verne** wrote these prophetic words:



"Water decomposed into its primitive elements [hydrogen and oxygen], and decomposed doubtless by electricity... will then ... become a powerful and manageable force. Yes, my friends, I believe that water will one day be employed as a fuel."

Twentieth Century



It was Henry Garrett, of Dallas, who pursued Verne's forecast with success. In 1935, he took out a patent for an electrolytic carburetor that enabled a car to run on water.

“YOU Can Turn WATER into FIRE!”



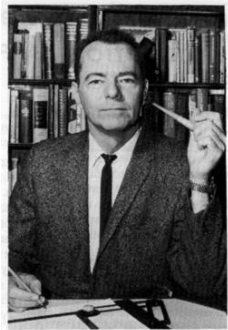
But it wasn't until the Second World War that this technology went to the top of the scientific agenda. The British army began to run low on conventional fuel for its military operations. It therefore installed Brown's and HHO gas generators in boats, tanks and trucks. These set-ups gave the army an alternative to gasoline and diesel that kept their vehicles working. The generators also proved ideal in hot climates: They prevented overheating - a problem that plagued ordinary engines.

The wartime generators were similar to those available today. But when the war ended, the army ordered its mechanics to strip out the generator units and destroy them all.



Dentaurum Hydro-Lötgerät

Despite this order, some generators resurfaced after thirty years. Lötgerat, a German company, made Brown's Gas/HHO generators in the 1970s from Second World War generator units and bubblers.



Prior to this, a brilliant American inventor, **William A. Rhodes**, patented an electrolyzer in 1962 that created a “single-ducted” gas. This gas is the equivalent of modern day Brown's or HHO gas. Maybe if he called it Rhode's Gas it would have caught on further. However, today we call this same gas Brown's Gas.



Twelve years later, **Yull Brown** (1922 - 1998) patented his own Brown's/HHO gas electrolyzer. This patent was part of Professor Brown's ongoing attempts to give Brown's Gas commercial credibility.

Yull Brown was an electrical engineer. He had an unswerving commitment to the Jules Verne statement that “there is fire in water”, and began pursuing this vision in earnest when he immigrated to Australia from Bulgaria in 1958.

By the 1970s, Professor Brown had not only filed his patent, he invented a method of water electrolysis that produced a safe mix of oxygen and hydrogen gas in exactly the same ratio as one part oxygen to two of hydrogen.

This mix was Brown's Gas. Professor Brown proved it could be created for a reasonable cost and used without posing any danger.

The mixing process that the professor used is “stoichiometric mixing.” Essentially, it means that it's possible to produce Brown's Gas safely and without membranes within an electrolysis cell.

Toward the end of the last century, research continued around the world into Brown's/HHO gas. Among the various developments, two stood out. In 1991, a small Dutch company began researching the effects of Brown's/HHO gas on the health and growth rate of plants.

Recent Years

The twenty-first century has so far seen some tremendous leaps forward for Brown's/HHO gas generators.

In 2007, the generators reached a milestone when Equipnet Ltd. of the UK received CE safety approval for their Brown's/HHO gas units. The following year, demand for Brown's/HHO gas generators increased dramatically. New manufacturers and distributors came on the scene, boosted by the clear evidence that standard internal combustion engines pollute less and run better when linked with a Brown's/HHO gas generator.

The interest in the generators and associated technology has spread across the globe. In 2008, a Dutch fishing vessel had a Brown's/HHO gas fuel saver generator fitted; in Canada school buses began to receive Brown's/HHO gas fuel injectors; in Portugal, 300 diesel trucks had Brown's/HHO gas fuel savers fitted; and B.E.S.T. Korea entered the European market by opening an office in London.

The industry has also been quick to see the potential of Brown's/HHO gas. Samsung, for instance, uses the gas to make TVs.

All this has combined to produce well-designed and flexible Brown's/HHO gas generators. These generators are now an accepted part of the drive to use great value, eco-friendly technology.

Hydrogen Injection for Fuel Efficiency and Emissions Reductions

What is Hydrogen?

Discovered in 1766, hydrogen is the lightest element known to science. The basic facts about hydrogen are these:

- It has just one proton and one electron. This simplicity means that scientists often refer to it as the basic building block of all elements.
- It makes up around three-quarters of the sun.
- It is 15 times lighter than air and has a specific gravity of 0.070.
- It is present in about 90 percent of all atoms.
- It is an essential part of water – H₂O. For more information about this, please read on.

What is an HHO Generator?

An HHO generator is a system that uses hydrogen to boost engine performance. Simply put, an HHO generator consists of a tank with distilled water and an electrolyte. This electrolyte is typically potassium hydroxide.

The process works as follows:

- Charge the distilled water to produce electrolysis. This separates and releases the hydrogen and oxygen atoms from within the water molecule.

“YOU Can Turn WATER into FIRE!”

- The generator gathers the hydrogen and oxygen, and supplies it into the engine by means of the air intake. The extra oxygen boosts the level of octane in the vehicle’s fuel.
- The hydrogen assists the combustion process in your engine. It does this by helping the flame in your engine burn faster than it usually does. In practical terms, the hydrogen enables you to make better use of the vaporized petroleum fuel. More of this fuel combusts, and thereby increases internal combustion engine efficiency.

So with an HHO generator, you benefit from:

- Better use of your fuel
- Less wasted fuel
- Reduced emissions
- Increased power
- Increased mileage per tank of fuel

We are now capable of creating very large quantities of gas on very little electricity compared to the past, as the designs are becoming more and more efficient. Here in the rest of this book we’ll explore the ways that these newest designs are making our lives easier, more efficient, less polluting, and a LOT less costly.

Reducing Emissions with HHO Gas

The state of our environment matters to everyone. We all know this and try to protect the environment as best we can. We are also aware that the pollutants from the exhausts of our vehicles are among the most harmful on earth.

One of the main culprits behind these emissions is unburned fuel. Its toxins damage the quality of the air we breathe and create lasting environmental health risks.

An HHO generator introduces hydrogen into the combustion process of your vehicle’s engine. It improves this combustion by making the flame in the engine burn more effectively. The result directly benefits the environment because the hydrogen helps burn more potentially dangerous unburned fuel particles. With an HHO generator, there are far fewer particles released into the air.

Hydrogen achieves this because it is so small. It is the smallest atom in the universe, so it enters an engine’s combustion chamber speedily and efficiently.

These hydrogen atoms also burn much quicker than gasoline. As a result, the presence of hydrogen reduces the combustion time within your engine.

This translates into some simple reactions:

- With hydrogen, an engine generates a more thorough burn during its stroke.
- The extra energy created becomes extra power.
- Less heat – and therefore energy – exits the engine as part of the exhaust stroke.
- The engine converts more fuel into useful mechanical energy.



Another way of looking at this is by using a step-by-step calculation:

More fuel becomes energy = more power from your engine = less emissions from your exhaust

How Can an HHO Generator Save You Money? Let Me Count the Ways...

The environment is important – and so is saving money. Fuel costs have become a major part of everyone's budget. The days of cheap gasoline and diesel are gone. Anyone who has a long commute by car to work knows exactly what this means to his or her financial commitments and lifestyle.

An HHO generator, however, can help you cut back on the money you spend on fuel.

An engine that doesn't use hydrogen wastes fuel. This unburned fuel is simply ejected through your exhaust system. You could even say that you are paying for the harmful emissions to be released from your vehicle's exhaust into the atmosphere.

An HHO generator helps you burn fuel far more efficiently. In fact, it can boost the mileage you get per gallon by 25 percent to 50 percent.

One way of looking at this is to do a simple calculation. Suppose you get 35 percent greater fuel efficiency with an HHO generator and imagine you have a vehicle with a 20-gallon tank that does 30 miles to the gallon.

$20 \text{ gallons} \times 30 \text{ miles to the gallon} = 600 \text{ miles per tank}$

$35 \text{ percent of } 600 \text{ miles is } 210 \text{ miles}$

Therefore, with an HHO fuel saving generator you could get an extra 210 miles out of your vehicle for every full tank of fuel.

Based on the current average price of gasoline, and on a national average of fuel consumption per car per month, you could save \$120 each month.

With an HHO generator that delivers fuel efficiency of 50 percent rather than 35 percent, this monthly saving can be more than \$170.

Two scientific studies that support these savings come from NASA's Jet Propulsion Laboratory in Pasadena, Calif., and the University of Calgary.

Here's what NASA has to say:

"The J.P.L. concept has unquestionably demonstrated that the addition of small quantities of gaseous hydrogen to the primary gasoline significantly reduces CO and NOx exhaust emissions while improving engine thermal efficiency."

At the University of Calgary, G.A.Karim conducted research into the effects of introducing hydrogen to a methane-fuelled engine:

.. the addition of some hydrogen to the methane, speeds up the rates of initiation and subsequent propagation of flames over the whole combustible mixture range, including for very fast-flowing mixtures. This enhancement of flame initiation and subsequent flame propagation, reduces the ignition delay and combustion period in both spark ignition and compression ignition engines. This should lead to noticeable improvements in the combustion process and performance."

What are the U.S. Tax Benefits of Installing an HHO Generator?

You can make an even bigger saving with an HHO generator by offsetting part of its cost against tax. The IRS has a list of elements you can buy to help your car run with a more clean-burning fuel. This list is as follows:

- Hydrogen
- Liquefied natural gas
- Natural gas
- Liquefied petroleum
- Electricity
- E85 (or higher alcohol content fuels)

HHO generators qualify for a deduction because they enable your car to run on a cleaner burning hydrogen injected fuel.

The only conditions are that you must have the HHO generator installed properly, and in the tax year you intend to make the deduction.

Please seek the advice of a tax professional because the law may change from one tax year to the next.

Here is the website for more information:

<http://web.archive.org/web/20060305072119/www.irs.gov/publications/p535/ch12.html>

Increasing Horsepower and Eliminating Carbon Build-up

Fuel efficiency, fewer emissions, saving money and tax breaks are great benefits. But an HHO generator can also help clean your engine.

As part of the internal combustion process, gasoline and diesel emit by-products, including carbon. Most carbon leaves through your exhaust. But some, as you may have come across, builds up in your engine.

Unleaded fuels reduce the amount of carbon build-up. They do not eliminate it completely, however. You may not have noticed the build-up because your vehicle may appear to be running much the same as it has been. Nonetheless, over time the carbon deposits reduce your engine's power and efficiency.

If you use an HHO generator, however, you can avoid this. An HHO generator boosts the octane level of the fuel in your vehicle. The higher the octane level, the cleaner the engine burns.

By using hydrogen, you can therefore clean out the carbon deposits from your engine. Horsepower, torque and general engine efficiency improve. Your vehicle then runs far more smoothly. You also don't have to spend around \$90 to have your engine de-carbonized at a repair shop.

What Powers the HHO Generator in a Car?

As well as the benefits of fitting an HHO generator, there are some practical issues to consider. What, for instance, powers the generator?

The answer is simple: Your car’s alternator. The alternator is the source of the electrical charge that runs into the mix of distilled water and electrolyte in your generator’s reservoir.

The electrical charge is small. It helps separate the oxygen and hydrogen gasses. The generator then injects these into the engine where they significantly improve your vehicle’s fuel efficiency.

Does HHO Work with Diesel Engines?

Yes. An HHO generator works on both gasoline and diesel vehicles.

Most research has focused on gas vehicles because these are the most popular. But you can install an HHO generator in a diesel engine and see considerable benefits.

HHO generators currently available can improve the mileage of most diesel vehicles – including trucks – by 5 percent to 50 percent. This wide variation is due to load and driving conditions. Even so, if you drive a diesel-powered vehicle you can save money.

Most interest in HHO generators understandably comes from truckers and trucking companies. Reducing costs can make a substantial difference to their competitiveness and profit margins.

A 2007 study at Purdue University found that with HHO generators installed, diesel engines had an average 15 percent improvement in overall performance. This figure includes power and mileage per gallon. An average 15 percent increase in fuel efficiency means a saving of hundreds, if not thousands, of dollars over the course of a year.

One trucking company in Salina, Kansas has proven this. After fitting HHO generators in its trucks, the company has had monthly fuel savings per vehicle of \$700.

This company is relatively small. Larger trucking companies are now experiencing substantial cost savings on fuel. What’s more, they are reporting greater overall efficiency because HHO generators improve horsepower.

The same improvements apply to diesel cars. If you have any diesel-powered vehicle, an HHO generator would benefit you.

The following statement from a scientific report shows the proven reduction in fuel consumption:

SAE Report: Performance and Fuel Consumption Estimation of a Hydrogen-Enriched Gasoline Engine at Part-Load Operation
(SAE Tech Paper 2002-01-2196, Fontana et al) Reduction in Fuel Consumption:

- 12- to 50- percent over range of torques

The installation of an HHO generator also leads to significant reductions in diesel emissions:

SAE Report: A Before Treatment Method for Reduction of Emissions in Diesel Engines (SAE Tech Paper 2000-01-2791, Bade Shrestha et al) Emission Reductions:

- PM 60 percent
- CO 30 percent
- NOx 19 percent

Can You Put an HHO Generator in a Car With a Small Engine Compartment?

Some modern cars are so carefully designed you may not have much additional room in your engine compartment. The designers and engineers want the engine to fit as tightly as possible to save size and weight.

There are some options, however, for installing an HHO generator in a small engine compartment.

An HHO generator must be close to the engine but it is not that big. You could therefore fit it under the front fender or by the mud flap at the front of the car. Another alternative is to install it in front of the radiator. You needn't worry too much, though. We have managed to fit an HHO generator in every type of car.

Won't Using a Leaner Fuel Mixture Cause My Engine to Get Too Hot?

This is a question that people sometimes raise. They worry that an HHO generator will increase the heat of their engines and create high exhaust temperatures. This leads to a risk of burned engine valves.

The cause of this concern is aircraft. In a plane with a piston engine, the period of take off and climb uses the maximum power that's available. At the cruising altitude, the plane reverts to a leaner fuel mixture.

During the flight, the pilot must therefore monitor the EGT (exhaust gas temperature) gauge. This way, the pilot ensures the engine stays at a safe temperature and there's no danger of burning the valves.

Back on land, the vehicles we drive have EFI (electronic fuel injection) systems. An EFI system regulates your fuel mixture. When your engine is warming up, and when you accelerate, the EFI system lets the vehicle burn a rich fuel mixture. This process is similar to a plane. Your engine needs richer fuel to get going.

When you begin to cruise in your vehicle, your ECU (engine control unit) adjusts the fuel mixture. It aims to reach an air to fuel ratio of 14.7:1. This is known as a closed loop operation.

The 14.7:1 ratio is the best way to mix air and fuel to make combustion as efficient as possible. The process is called stoichiometry.

This ideal ratio also gives the highest EGT and combustion temperature. If your vehicle adds more air, you get a leaner mix. You also get a cooler EGT and combustion temperature.

Similarly, if you create a richer mix by adding fuel, you get a cooler temperature for combustion and EGT. The highest EGT (or peak) occurs only at stoichiometry, which is the 14.7:1 air to fuel ratio.

What's clear from all this science is that if you increase the fuels' richness, the EGT drops. But it also drops if you go for a leaner fuel mix.

This is a lot to take in and you may wonder what it has to do with an HHO generator. But remember that adding hydrogen to the combustion process in your vehicle creates a leaner fuel mix. Therefore you don't increase the EGT temperature. This in turn means you don't run the risk of burning the valves.

At the same time, using hydrogen boosts your vehicle's power. As a result, you won't experience the drop in power that you normally associate with burning a leaner fuel mix. With an HHO generator, you can burn leaner fuel without any safety concerns and get the best from your vehicle's performance.

If Using Hydrogen Fuel Creates Water, Won't That Damage the Engine?

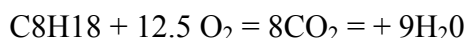
A further concern some people raise is about water build-up.

When you burn hydrogen, the by-product is water and nothing else. So if you use an HHO generator, you may wonder if you'll have a build-up of water in your vehicle's exhaust system.

However, when you burn gasoline, your engine also creates water. Your exhaust system is therefore made to handle any water residue.

The following paragraphs describe how this process works with gasoline.

The chemical equation for an internal combustion engine that burns gasoline is:



In the above equation, C₈H₁₈ is the chemical formula for gasoline; H₂O is water. Therefore, when a gasoline molecule burns it creates nine water molecules. This means that more than half the residue in the exhaust of your vehicle is water.

To put this in terms of mass, an average octane molecule is 114 grams. When you burn one of these molecules, your vehicle creates nine water molecules, each of which has a mass of 18 grams. Burning one molecule of gasoline therefore creates 9 x 18 = 162 grams of water.

Imagine your car traveling on a freeway at 60 miles per hour. Say it burns two gallons of gasoline each hour. This is the equivalent of six kilograms of gasoline. So if you burn gasoline in this way for an hour, your car produces 8.5 kilograms of water. This is 2.3 gallons. During the period of this hour, your exhaust system therefore has to deal with 2.3 gallons of water.

Exhaust systems are clearly built to withstand the effects of water. But it's worth looking at the way an HHO generator may influence the amount. After all, a generator reduces the quantity of fuel your car burns by 25 percent to 50 percent.

Erring on the side of caution, assume your HHO generator reduces your fuel consumption by just 20 percent. If so, you will reduce the water that your vehicle produces by 56.7 ounces each hour. At the same time, the hydrogen will add water to the exhaust. But an average HHO generator adds just 0.7 percent of water to the engine of your vehicle. The reduction of water that the HHO generator causes far exceeds this tiny extra amount from the hydrogen.

An HHO generator therefore cuts back on the volume of water passing through your vehicle's exhaust system. What's more, the example we've used is conservative. Most HHO generators will reduce your fuel consumption

by 25 percent to 50 percent, not 20 percent. This means you are far more likely to cut down on even more water than the figure given here.

What About Hydrogen Embrittlement?

This is another popular question.

Embrittlement may occur when hydrogen comes into regular contact with metals such as aluminum and steel. The metals become brittle and are prone to crack.

In scientific terms, what happens is that the hydrogen atoms diffuse in the metal. They enter the gaps between the metal's atoms and combine with these. Then the hydrogen atoms try to bond with the nearest other hydrogen atoms in the metal to create what's known as a diatomic molecule.

What this means is that this attempt at bonding places the metal's atoms under tremendous pressure. This pressure eventually causes the metal to become brittle. Cracks appear, and for a vehicle's engine this can spell disaster.

It's not surprising, then, if vehicle owners worry about introducing hydrogen into their engines. But you need have no fear. There is absolutely no danger of an HHO generator damaging your vehicle's engine.

There are a number of reasons why an HHO generator is perfectly safe. To begin with, the hydrogen atoms released by the electrolysis process within the generator quickly become diatomic hydrogen molecules. Diatomic hydrogen molecules cannot diffuse in metal and cause damage.

Of course, the electrolysis process also creates oxygen. This blend of oxygen and hydrogen, known as Brown's Gas, generally has some hydrogen ions. Most of these are diatomic and safe for your vehicle. But even those that are not diatomic do not pose a risk. This is because the hydrogen burns so fast in your vehicle's combustion chamber, there is not time for it to diffuse with the surrounding metal.

This is the only place the Brown's Gas goes – into your vehicle's combustion chamber using the air intake system. And once there, as stated above, the gas is quickly burned.

The other point to bear in mind is that hydrogen embrittlement usually happens in situations where there is highly charged plasma. HHO generators do not have plasma, so there is no risk of embrittlement.

You can therefore install an HHO generator knowing that it will not harm your engine in any way.

Operating an HHO Generator

With these practical issues answered, most people want to know how to operate an HHO generator.

The most important thing to remember is to regularly add distilled water to your HHO generator. The process is simple. The best advice is to top up your distilled water level every time you fill your gas tank.

Only use distilled water, however. Distilled water is mineral free: If you use ordinary water you’ll find that minerals collect in the generator after the electrolysis process. This build-up of minerals can affect your generator’s performance.

And don’t worry about the price of distilled water – it’s cheap. There are alternatives to buying it, however. Rainwater is free from minerals so you could collect and use it instead. Water from a dehumidifier is also mineral free. Finally, it’s possible that your city water treatment system removes minerals from your water supply. If so, use tap water.

Using distilled, mineral-free water means that your HHO generator will run efficiently without maintenance. Nonetheless, check it from time to time to make sure the generator remains clean and mud free.

What an HHO Generator is not going to do

(however, don’t let this limit your excitement, there are exceptions to every rule!)

Unfortunately, some companies and distributors exaggerate the benefits of HHO generators. For the sake of clarity, here are the details of what a normal HHO generator will **not** do.

- The majority of HHO generators are not replacements for your existing fuel system. They supplement it. You have to continue buying gasoline or diesel. But you’ll buy far less because you’ll experience improved mileage per gallon. So can you go the whole way and convert your vehicle to hydrogen only, as is claimed by some? Yes, but you are looking at a very expensive system.
- HHO generators are not going to boost your fuel efficiency by more than 50percent by themselves. It’s possible that with careful engine maintenance, the right high performance spark plugs, and additional electronics, you might get up to a 300percent increase. Some people certainly claim this. But beware: You need special knowledge and extra investment to get anywhere near such a figure.
- HHO generators cannot give you a precise percentage increase in fuel efficiency. Factors such as your driving ability, the condition of the road and the type of vehicle you own affect the percentage figure. What’s more, the government stops companies promoting exact figures about fuel efficiency savings. However, there is little doubt that if you install an HHO generator and continue driving as you’ve always done, you’ll experience a 25percent to 50percent rise in efficiency.

What HHO Generators Will Do

That’s the negative aspects over with. Now see how you can benefit from HHO generators.

- An HHO generator will increase the mileage you get from your fuel (with proper installation, and in many cases, electronics). This is great news. The environment benefits and you can make substantial savings on your gasoline or diesel bills. Fitting an HHO generator is the single most effective way of improving your vehicle’s efficiency.

- An HHO generator will boost your vehicle’s power. You’ll find this out straightaway. You’ll be able to travel further on a tank of fuel. And you’ll have greater horsepower thanks to the fact that you’ll be burning more fuel in your combustion chamber – and wasting far less.
- An HHO generator will enable your vehicle to produce fewer emissions and run more smoothly. A reduction in your vehicle’s emissions is good for the environment. It’s also useful if you live in a state such as California where emissions testing is a legal requirement. In fact, if you don’t have an HHO generator, you may struggle to pass emissions tests in the future. As for smooth running, an HHO generator helps to remove any carbon deposits from your engine. This saves you money on repairs and maintenance. An HHO generator also cleans the O2 sensor in your vehicle.

These benefits stack up. An HHO generator is good for your car, the environment, and for your finances.

If HHO is So Good, Why Isn’t Everyone Using It?

This is a good question. Using HHO generators clearly saves money, reduces emissions and improves performance.

Unfortunately, the corporate business world does not necessarily support these goals. There is a great deal of vested interest in maintaining our dependency on oil. This is backed by political decisions and simple skepticism.

It’s important to take a step back, put aside the lack of enthusiasm among the corporations and politicians, and consider the simple facts.

Using HHO generators is a proven way of helping the environment and saving on conventional fuel costs. There may not have been significant investment in research, development and distribution but this doesn’t alter the plain truth of hydrogen’s value.

In the years to come, we may see greater interest in a hydrogen economy. In the meantime, there is no reason why you shouldn’t benefit from this technology.

Other Uses

Finally, you may want to know about other uses for HHO generators.

There are HHO generators available for many types of gasoline and diesel engines. These engines may be in lawnmowers, semi-trucks, motorcycles or powerboats. It doesn’t matter. If you have a gasoline or diesel-powered engine, you will benefit from installing an HHO generator.

HHO gas also has potential for uses other than improving vehicle engines. One of the most significant of these is in HHO gas welders.

An HHO gas welder is the only welder that can join different types of material. It can weld glass and brick, for example, or metal and glass.

The welder achieves this stunning feat because the gas doesn't explode when lit. Instead it implodes. HHO gas also reacts sympathetically to welding materials. Put another way, it automatically changes its temperature to react with the different materials you intend to weld. The result is a very useful, all-round welder.

This may not be your main interest in HHO gas. After all, if it can save you money, allow you to make better use of the fuel in your car, and reduce harm to the environment, what more do you want? Nonetheless, it's worth bearing in mind that we'll be seeing a lot more of HHO gas and its technology in the future.

Benefits of HHO Gas in the Home and Business

HHO Gas, or Brown's Gas has a wide of usefulness in our society. Here we will describe and discuss many different ways we can use HHO gas to save money in our homes, and many work environments.

We have already covered the benefits of using the gas in combustion engines as a means to enhance fuel efficiency and reduce emissions. However, today many scientists believe that the most efficient HHO generators have been made in such a fashion, that they can power an electrical generator. Some scientists claim to have already accomplished this amazing feat.

They are not claiming they are "breaking" the so-called century old "laws" of physics. We are not talking about simple electrolysis either. The scientists claim to have created a system that causes "energized clusters" which are highly combustible and much more powerful than simple hydrogen itself, allowing it to be used in combustion engines as a single fuel source. Moray B. King is a big proponent of this technology and is still trying to bring it main stream.

This is NOT over-unity, as breaking down of the water has just been made extremely efficient using applied physics. Many people have accomplished this in various ways, including the late Stan Meyer, who is said to have been murdered, after receiving multiple death threats for years, due to his process of super-efficient electrolysis to create HHO gas. As stated in the history section of this book, he created a car that ran ONLY on water, and was verified extensively.

Rod Thomas, of Total Vision® Products, said something in an email to me that explains this idea quite well:

"Regarding the over unity subject, you should point out to your critics that technically this does not qualify as a perpetual motion type of device. Over unity, which is basically the same thing as perpetual motion, says that to achieve it, you must create more energy than what is required to operate the unit. *These systems are not creating excess energy*, they are simply releasing (from the water) more energy than it takes to operate the cell."

Find out more about Stanley Meyer at: <http://waterfuelcell.org/>

There are videos and confirmation by engineers and the patent office, stating that Stanley performed exactly as promised. You can purchase DVDs of Stanley's lectures at the website as well.

Eliminating Acetylene Gas or Other Industrial Toxic Gases from Industry:

Does your business use cutting torches? We all know that Acetylene Gas, MAPP gas, and other industrial gases are not only very expensive, but harmful to both the environment and to the people using them for welding, brazing, cutting, or whatever the gas may performing be at the time. However, what people don't realize, is that there is a cheaper, renewable, and easy way to achieve the same thing, with much better results. How you ask?? With HHO Gas of course, produced ON DEMAND in the shop in which it is being used.



*Notice the bushy, toxic, explosive flame of the acetylene to the right.
Compare that to the laser-like flame of HHO below.*



←This torch is powered by an HHO Generator at HybridTech Energy. Notice the long laser like flame. The flame is very thin, because it is "implosive" by nature, instead of "explosive". When the HHO Gas ignites, it turns back into water vapor, shrinking the gas by 1,860 times. This process creates a vacuum, which partially gives this gas some of its unique abilities you will discover below.

Here is an excerpt from the HybridTech Energy website, regarding what we call our AquaFlame Technology:

- Units can run on 110 volts or 220 volts depending on the size and application of the machine.
- The gas used for the flame is created ON DEMAND from WATER using HybridTech Energy's Patent Pending Hydrogen Production Technology. **No more hazardous bottled compressed gases!**
- Eliminates the need for acetylene or MAPP gas in welding and cutting applications.
- Very Tight, Laser-like flame reduces "collateral damage" and excess heating of metal, compared to acetylene.
- ZERO Toxins, the only off-gas from the flame is WATER VAPOR which is completely harmless.
- Cuts made using AquaFlame Technology are rust-proof! The flame is an oxidizing flame, which makes a super hard oxidation layer on the cut surface which eliminates rust or other oxidation from penetrating the metal.

“YOU Can Turn WATER into FIRE!”

- LITTLE or NO machining Required! The cut using AquaFlame is in most cases perfectly smooth and clean. This can all but eliminate the need for costly machining and grinding after cuts.
- Approximately 10 times more cost effective than using Acetylene, while reducing worker sick days and has zero emissions.
- In most cases, using AquaFlame Technology is 30 percent faster than using Acetylene to do the same work.
- In cutting operations, you will reduce your need for additional oxygen by 40 percent or more. In many cases no additional oxygen is needed.



“Note how I am holding the tip of the torch, and it is only warm. Brown's Gas is unique in this sense; Acetylene will burn you if the torch tip is touched in this manner.”

AquaFlame Applications: *(Distribution Information Available on page 39)*

- Plumbing
- Cutting Heavy Metals
- Jewelry Industry (Jewelry Micro Torches available for In-Store Zero Emissions Applications)
- Soldering for any application with ONE gas, no Exotic Gases Necessary.
- Welding Cast Iron and Copper with no flux, less cooling time needed.
- Welds Aluminum with Flux Core rod with ease.
- Automatic Cutting Torch Applications
- Ship Yards
- Muffler Shops
- Fabrication Shops

"YOU Can Turn WATER into FIRE!"

- OFFSHORE P&A WORK, Eliminate Costs and Hazards of Working with and Moving Acetylene.
- And many more uses!

By using AquaFlame technology, you can eliminate the costs and health risks to you and your employees that come with the use, and storage of potentially explosive gases like Acetylene.

As you can see from reading these applications, HHO gas is a far superior cutting tool than Acetylene, MAPP, or propane. HHO Gas beats every other fuel as a cutting gas, hands down on every level, especially cost and safety!

It is important for me to tell you, that HybridTech Energy did not invent the water torch. As stated in the History section of this book, Mr. George Wiseman brought this technology to the forefront in the 90s, and Yull Brown had a torch running before I was even a twinkle in my father's eye. Wiseman made his torch design extremely efficient, reducing the costs of electricity for producing the gas.

By now you should pretty much get the picture. The advantages to using HHO Gas over Acetylene for your business are extensive. You can reduce costs by up to 80-90 percent, reduce health risks, reduce safety hazards, and you won't need bottled gases aside from oxygen. We have videos available of HHO torches in action available all over YouTube.com if you need more information. Let's move on!

Heating the Home or Office:

Before you put down this book, saying this HHO stuff is too good to be true, answer this question.

How much was your heating bill this past winter? If you are anything like I used to be, I had a furnace which burned natural gas for most of the winter! Natural gas is expensive, costing nearly \$200 per month or more to heat a home, and can potentially poison your entire family with carbon monoxide if you are not careful. Not to mention, should your pilot light go out, your home will be full of carbon monoxide and gas, which could easily cause a MASSIVE explosion! This is an extreme case of course, but you get the point.

Safety doesn't usually motivate people to change how they operate, but saving money will!

What if I told you, that you could operate a home heater, which produced 125-300 degree forced air, for less power than it takes to operate your home computer? A machine that never got too hot, and pumped out a constant supply of on demand heat, for about 7 cents per hour? Enough heat mind you, to sufficiently heat a 40-by-40 foot room, in one hour. Would you call me crazy?

Sticks and stones people, but the bottom line is that this technology is not only available, but can be easily produced at home from parts found at Lowe's or Home Depot and on the Internet.

The only cost of operation is the cost of adding distilled water, and the cost of the electricity. People have built prototypes, literally using a 400-watt power supply from a home computer! Larger and more powerful heaters can be built using a 750-watt power supply. Plans are available online to build these systems from scratch, so you can save a boat load of money this winter!

Cooking with HHO

Natural gas or propane boycotting doesn't need to stop with home heating. You can actually set up an HHO stove in your home! There are a few stoves on the market, but not many in production in the USA. HHO stoves can be made in various ways, and is basically just a bunch of tiny torch heads assembled in an arrangement on which a pot can sit. The same principles are used in all HHO units whether they are heaters, stoves, torches, or vehicular devices.



Utilizing HHO to cook is more efficient than natural gas or propane for the following reasons:

- 1.) HHO flames are very tight and laser like, with very little ambient temperature. This means that nearly all of the energy from the HHO flame, is being put directly into the pot or pan being used to cook.
- 2.) Cooking with HHO is faster due to higher energy transfer, and the gas is very inexpensive to produce compared to propane or natural gas.
- 3.) Using an electric stove, is basically creating a dead short, to make heat. This can use up to 3500 watts or more depending on how many elements are being used at a time. Our *most efficient* units can operate 4 HHO burners with under 2000 watts of electricity, and do a MUCH faster job cooking than an electric stove.



Stove Photos by Epoch Energy Technology, www.oxy-hydrogen.com, Retrieved July 2010

You can actually create your own HHO stove at home with a good HHO unit, and a few parts from Lowe's. You will also need a good flashback arrestor to stay safe.

More Applications of HHO Gas

- Adhesive Drying
- Annealing
- **Brazing**
- Cable Stripping
- Casting (die and investment)
- **Cutting**
- Creating Semiprecious stones (example: manufacture Rubies)
- Desalinate water
- Drilling
- **Energy storage**
- Enhanced fossil fuel combustion (internal and external)
- Epoxy Curing

- **Flame cutting**
- - directly cuts thin metal, plastic sheets, hard rods and hard fibers
- - adding oxygen
- Flame drilling
- **Flame polishing**
- - flame polishing of glass, plastic, quartz and ceramics
- Gouging
- **Heat Shrinking**
- Molding with heat
- Ore/Mineral-Refining, Separation and Manufacture
- Plasma Spray
- Preheating
- Pressure/vacuum pump
- - freeze drying, distillation
- **Replace industrial torch gases**
- Sintering
- **Soldering (all types)**
- Tempering
- **Toxic waste neutralization**
- Underwater cutting and heating
- **Welding**
- - precious metals, quartz, copper, aluminum, glass, wax, cast iron, plastics . . .

Industries that can Benefit from HHO Gas

- Artists
- Automotive
- Bridge building / repair
- Ceramics
- Construction - tired of hauling acetylene bottles to the tops of buildings? Get an HHO Torch!
- Dental
- Electromechanical
- Electronics
- Fabrication (light and heavy)
- Glass
- Instruments
- Investment Casting
- Jewelry
- Laboratories
- Maintenance
- Manufacturing
- Marine
- Military
- Mining
- Oil (rigs, pipelines, refining etc.) Lots of Oxy-Acetylene carried offshore for P&A work, why not use an HHO Torch? It's much safer, no explosive bottled gases, no emissions, save money on the fuel and transportation of bottled gases.
- Optics
- Plastics
- Petroleum
- Power plants
- Recycling
- Refineries
- Refrigeration
- Repair
- Salvage
- Schools / Universities /Colleges
- Semiconductor

“YOU Can Turn WATER into FIRE!”

- Shipping
- Shipyards / ship building
- Solar Cells
- Thermocouples
- Tool and Die Makers
- Waste disposal

There are tons more possibilities of HHO gas uses being discovered all the time. Did you know that HHO has been used as an underwater breathing gas? What areas can you think of in which HHO gas may be useful? We would like to invite you to join us in the HHO industry, and help the world convert to this wonderful fuel of the future.

Neutralize Radioactive Waste

We've already covered the amazing emissions reduction power of HHO Gas, and they have been proven time and again by anyone who cares to perform a test. But what about something that may be bigger? What can Brown's Gas do for nuclear waste? You know that big mountain in Nevada where the government is burying this toxic material, Yucca Mountain? What if we could reduce radioactivity of nuclear waste by nearly 100 percent? We can! And it's been proven many times with this wonderful gas.



In a test performed by Yull Brown in front of an audience including U.S. Congressman Hon. Berkely Bedell with committee responsibilities that are concerned in this area, the experiment went as follows:

“Using a slice of radioactive Americium ... Brown melted it together on a brick with small chunks of steel and Aluminum ... After a couple of minutes under the flame, the molten metals sent up an instant flash in what Brown says is the reaction that destroys the radioactivity. Before the heating and mixing with the other metals, the Americium, made by the decay of an isotope of Plutonium, registered 16,000 curies per minute of radiation. Measured afterward by the [Geiger Counter], the mass of metals read less than 100 curies per minute, about the same as the background radiation in the laboratory where Brown was working.”

Excerpt from a report by Mr. A. Michrowski, President, Planetary Association for Clean Energy, Inc. May, 2000

This experiment indicated a radiation reduction by over 99percent from the original levels, in under 5 minutes with minimal handling.



Congressman Berkley Bedell said,

“it has been my good pleasure to witness experiments done by Prof. Yull Brown in which it appeared to me that he significantly reduced the radioactivity in several nuclear materials. Under the circumstances, I believe it is very important for our federal government to completely investigate Dr. Yull Brown's accomplishments in this area.”

So, why is the government not using Brown's Gas to reduce radioactive waste today? Nuclear power is extremely clean, except for the spent fuel rod waste. So why does the government not recognize Brown's Gas as a savior to the nuclear waste issue?

Again, I am here to popularize the use of HHO Gas, and expose to the public the real benefits and uses. I am not here to dabble in politics. Write your local Congressman and ask the question yourself, you may just make a difference!

HHO Gas and the Economy, Will You or Your Business be Affected?

HHO technology quickly spread throughout the internet in 2008 due to the rise in fuel prices. People were desperate to find an answer, and they did! Many people turned to HHO gas to increase their fuel efficiency, and to keep up with emissions standards on older model vehicles.



Nowadays, oil prices have come back down to Earth, and even though fuel is still costly in the United States, it isn't nearly as bothersome as it was in 2008.

Today there is a new challenge facing businesses. This is a threat that will create revenue for some, and potentially bankrupt others. We call this dragon, Emissions Cap & Trade. While staying politically unbiased in this book, I'll just say this is the largest load of crap that will ever be released on this country. It will start with big businesses like coal fired power plants, and end with farmers paying a tax on the flatulence of their cattle (methane)...no kidding. And this is just the beginning. However, it can still be profitable for people who know how to take advantage of the Cap & Trade system with HHO gas.

Cap and Trade, a Short Explanation

At the time of writing, the US government is proposing to pass a Cap and Trade Bill. The Bill relates to emissions, so it's worth adding a short explanatory note to this book.

A cap and trade system sets a limit to emissions. This is known as a cap. It also distributes rights to create emissions. These are called allowances. The allowances must not exceed the cap.

The allowances go to regulated organizations. They can trade these allowances among themselves.

A company that emits pollution doesn't have an individual cap. Instead, it must obtain enough allowances to cover its total emissions over a given time. But because there are a limited number of allowances, controlled by the cap, an increase in allowances for one company must be met by a drop elsewhere. In other words, the overall amount of emissions must remain the same.

However, the cap eventually reduces. This means that companies must produce lower emissions overall. The purpose of a cap and trade scheme is therefore to reduce emissions within an economy over a controlled period. To help achieve this, the scheme must also work hand-in-hand with appropriate trade regulations.

Clearly anyone involved in the truck industry, for instance, may face an emissions problem in the light of the Cap and Trade Bill. Fitting HHO generators may ease the problems the industry faces. It's certainly worth acting now to find out what HHO generators can do for your business.

"YOU Can Turn WATER into FIRE!"

Here is an example of how HHO Generators may benefit your business:

The system will run off of a series of Allowances, Carbon Credits, and Carbon Offsets. The expense of these Carbon Credits can be as much as \$20 per ton of CO₂ emitted. However, according to a recent article on Business Wire, the price could be well over \$60 per metric ton!

<http://www.reuters.com/article/pressRelease/idUS172645+16-Oct-2009+BW20091016>

So what does this mean? Let's just say its \$20 per metric ton for arguments sake. A semi-truck getting 5.5 MPG's can emit as much as four pounds of carbon dioxide (CO₂) per mile. Many trucks drive as much as 100,000 miles per year!

So, 400,000 pounds of CO₂ divided by 2,204 lbs per metric ton, gives us 181.5 tons of CO₂ emissions from one truck. This could cost the company \$3630 worth of Carbon Credits, per truck. Oh wait. Your company has 100 trucks? That's \$363,000 worth of Carbon Exchange Credits, which you can either spend, or save to sell on the open market.

Enter HHO Gas. If you retrofit your vehicle with an HHO unit, your CO₂ emissions can be cut by as much as 80 percent, thus reducing saving you 80 percent worth of Cap & Trade Carbon Credits which can be openly traded to other companies, who are not so fortunate as to have read this book!

These savings are before your fuel efficiency savings. Increase your mileage on each truck by 30-40 percent and you will be laughing all the way to the bank!

See the numbers for yourself. A gallon of diesel fuel contains 22.2 pounds of CO₂ as calculated by the EPA on this website: <http://www.epa.gov/oms/climate/420f05001.htm>

Check it out.

In Europe, companies are receiving as much as \$900 a month worth of carbon credits per month, per truck for installing HHO systems like the ones provided by HybridTech Energy.

Here are emissions test results from California Environmental Engineering, after introducing HHO gas into the diesel fuel mixture in just small quantities of approximately two liters of gas per minute.

Test Subject:

Cummins NTC-400

Big Cam IV Truck Diesel

855 C.I.D. (14 L)

1500 Hours Since Overhaul

Emission Reductions:

- Hydrocarbons 74.5percent
- Carbon Monoxide 14.6percent
- Nitrous Oxides 11.1percent
- Particulate Matter 81.4percent (unburned fuel, soot)



The test also resulted in an overall 10 percent increase in fuel efficiency for the 14-liter engine, again from only two liters per minute of HHO Gas. Many big rig HHO units today, such as the units produced by HybridTech Energy, make anywhere from 10 to 20 liters of HHO gas per minute, increasing fuel efficiency and reducing emissions even further still.

Right now it is November 9, 2009. No action has been required as of yet on transportation companies, but it could happen as early as 2012.

HybridTech Energy is currently working with different emissions "standards" organizations to get our technology qualified and a protocol written to produce Carbon Credits for our customers. When this takes place, our customers will be able to receive carbon credits when cap and trade takes place in the United States. They will also be able to PROFIT from this market considerably!

So you want to build a system...what EXACTLY will you need?

This of course, is going to depend on how big of a system you want to build for you own experimentation. However, I will give you the basics here.

(on HybridTechUSA.com there are multiple videos showing everything here)

There are certain things that are standard with most dry cell systems nowadays.

- 1.) Electrolyzer, this is the Heart of any HHO system. They come in many different shapes and sizes depending on the use. You can build your own or you can find them readily available at many stores online.
- 2.) Reservoir, this will hold your electrolyte and feed it into the electrolyzer. The electrolyzer will then create HHO gas, and the gas (along with some electrolyte) will then be circulated back into the reservoir. These are commonly found at most HHO suppliers.
- 3.) The Bubbler. The bubbler is piece of safety equipment first, then an HHO gas cooler second. Depending on the work you are doing, you can add certain things to the bubbler for desired flame effects such as different colors with different chemicals. When the HHO gas comes out of the Reservoir, it goes through the bubbler which is filled with a liquid (usually water or vinegar) and out of the other end to be used from there. In many cases, the gas may be pretty warm coming out of the reservoir, so one or several bubblers may be used to cool the HHO gas and cleanse it of any steam or electrolyte particles.
- 4.) Flashback arrestor. If you want some extra confidence, you can put an inline flash arrestor which will stop (in most cases) the flame from back flashing up the HHO line and into the bubbler. This is usually catastrophic for the bubbler, however there are some pressure relief valves in the market place that can be fitted to your bubbler to take the blow of a flashback so a bubbler doesn't have to do the dirty work!

“YOU Can Turn WATER into FIRE!”

Of course, you will also need a power supply of some sort to power your electrolyzer. Your electrolyzer dealer will tell you which voltage your electrolyzer can handle, and how many amps can be pushed through it, along with electrolyte amounts.

Electrolyte

The most common electrolyte is baking soda for beginners, but don't use baking soda. It will ruin your electrolyzer and it's DIRTY. Pros use KOH (potassium hydroxide) or NaOH (sodium hydroxide), also known as Lye. These chemicals are both caustic and can cause skin and eye irritation so be careful. If it gets on your hands, in your eyes, mouth, etc. you will want to wash your hands soon or rinse out completely. I've had it in my mouth before, and trust me it tastes terrible...don't ask...just don't attempt to siphon out a reservoir with a short siphon hose!

I want to build a cell, how do I arrange the plates and power them?

This is where most beginners go through a learning curve, but don't worry...I'll make it easy for you! I have the answers to this equation...kidding, there is no equation.

It goes like this:

In a dry cell configuration, you have a stack of stainless steel plates with gaskets between them. The plates are usually made out of high grade 316L stainless steel. Some plates are “nano-coated” some plates are even titanium. Whatever the material, the same rules apply for all plate dry cells as far as my experience has taught me.

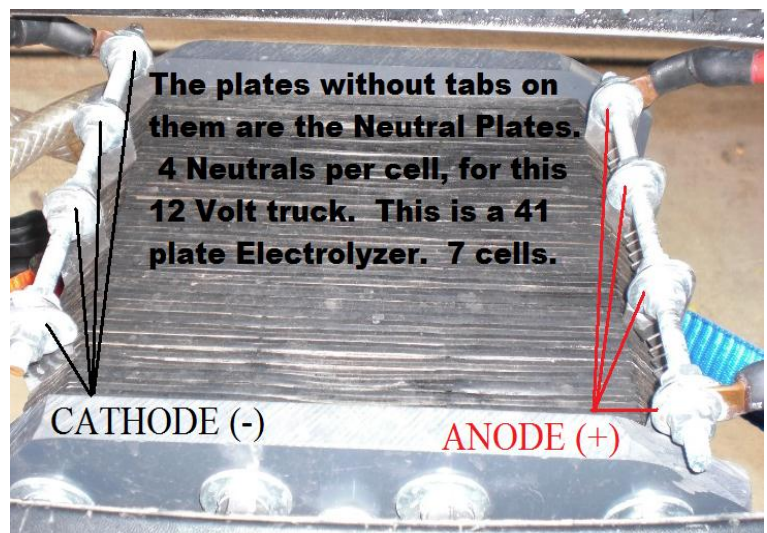
The plates of a dry cell are made of positives (+), negatives (-) and neutral plates (N). Of course the positives and negatives provide the power, which is what is needed for hydrogen production. However, we use NEUTRAL plates to make this production more efficient. Now how does that work?

Through lots of research and time, we (we as in the HHO community) have figured out is how many plates need to be in each “cell” compared to the input voltage. Let me give you an example of a cell:

1. + and -, is one cell.
2. +, N, - is one cell
3. + N N N N -, is also one cell.

This concept is called a “series cell”. This design was implemented to increase efficiency in electrolyzer design. We've figured out that approximately 2 Volts should be run per PLATE in the cell. Many calculate this by so many volts per plate GAP, but we come out with the same numbers in the end. Therefore, what should the plate configuration be for a 12 volt input? + N N N N -. This is the most common configuration because 12 volts are easily available in DC.

Electrolyzers ONLY work with DC current to the cell.



Bring HHO to *YOUR* Industry First!

As the HHO industry grows there will be many jobs available for installations, distribution, sales, and even Research and Development. Expand your industry’s profitability and even safety with becoming a distributor of HHO equipment. Saving companies money is good for the economy, and good for their customers!

Distribution opportunities will be available soon through HybridTech Energy in the following industries:

- *Welding/Metalworking Supply*
- *Restaurant Supply*
- *Automotive Repair/Trucking, and MANY MORE TO COME!*

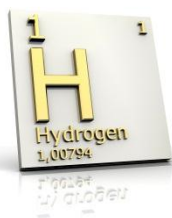
If your industry currently uses an industrial gas that could be replaced by HHO, then you’ll want to contact us and lead your industry to a cleaner and brighter future. Help your industry save money, by contacting us at HybridTech Energy. Go to www.HybridTechUSA.com and click on “*Become a Dealer*”. Please be as detailed as possible in your communication. We receive hundreds of emails per week and will try to get back to you as soon as possible.

Common Myths and Misconceptions around Hydrogen and HHO Gas

Myth #1: Hydrogen is DANGEROUS! Remember the Hindenburg??

This is the biggest one, that hydrogen is dangerous and your whole house will explode as a result of using or experimenting with HHO gas. This is ridiculous.

Here are some facts about Hydrogen:



Hydrogen disperses quickly when exposed to open air. Being the lightest element (fifteen times lighter than air), hydrogen rises and spreads out quickly in the atmosphere. So when a leak occurs, the hydrogen gas quickly becomes so sparse that it cannot burn. However, natural gas is heavier than air, causing it to pool on the ground much like gasoline fumes. This is extremely dangerous and will lead to a massive explosion, much closer to the Hindenburg.

Hydrogen is a non-toxic, naturally-occurring element in the atmosphere. By comparison, all petroleum fuels are asphyxiates, and are poisonous to humans. Your gas heater and stove contains more than enough carbon monoxide to poison you and your entire family, while quietly lulling you to sleep. Hydrogen combustion produces only water. When pure hydrogen is burned in pure oxygen, only pure water is produced. When a hydrogen engine burns, it actually cleans the ambient air, by completing combustion of the unburned hydrocarbons that surround us. Compared with the toxic compounds (carbon monoxide, nitrogen oxides, and hydrogen sulfide) produced by petroleum fuels, the products of hydrogen burning are much safer.



Photo Credit CSU Archv/Everett/Rex Features, Retrieved July 2010

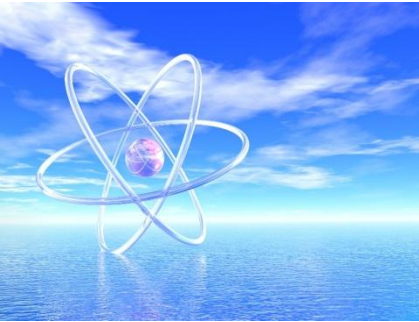
As far as the Hindenburg is concerned, this is the subject of much debate. However, there were 97 people on board, and 34 died in the tragedy. This was also not the maiden voyage of the air ship. The ship had flown 62 times before the incident. As far as the hydrogen igniting is concerned, we know that hydrogen burns blue and is nearly clear. Also, it burns very rapidly! The Hindenburg burned yellow and orange slowly, and didn't explode like hydrogen and oxygen mixed would. In reality, the ship was coated with aluminum flake alloy paint. Not to mention iron and steel rods throughout the hull of the airship. Guess what happens when lightning strikes this flammable paint? You guessed it, the aluminum alloy ignites! Then, with the iron and steel rods so close to the aluminum fire, it could have very easily melted the iron burning it with the aluminum to make Thermite, which is a very powerful and hot burning substance.

Aluminum, lightning, and Thermite are more than enough fire hazards to burn an airship. This was before the on-board diesel was ignited, where the fumes and heat from burning diesel oil killed whoever was on board that didn't jump! Believe me, in this situation, hydrogen wasn't needed to cause the Hindenburg to burn. Hydrogen has had a bad rap ever since. This is not to say that the hydrogen didn't eventually burn.

Other airships have gone down before, due to similar instances, which were lifted with helium.

Bottom line here is this: Hydrogen is a great alternative fuel, and can be safely stored and utilized in many conditions, but we create hydrogen ON DEMAND. So forget the Hindenburg...it isn't comparing apples to apples. Hydrogen is a great alternative fuel, but may be a terrible lifting gas for air ships coated with flammable acetate-aluminum paint in electrically charged air.

Myth # 2: HHO gas production always results in a net loss! You can't rewrite the laws of physics! You are violating Conservation of Energy!



This is my favorite. Before I start, I'd like to state that the "Laws" of physics, including Thermodynamics were written a very...very long time ago. Do you think, that maybe, since we've been to the moon, our understanding of physics and technology has increased a little bit? We're not violating physics, we are simply using physics in such a fashion to work for us, instead of against us.

ZeroFossilFuel said it best on his website www.alt-nrg.org:

"Here's the simple math I use to stuff it in the face of "the experts" when they say we're attempting to violate the "Laws" of conservation of energy. Please feel free to use it to stuff it to them too.

- 1) The best I.C.E. (Internal Combustion Engine) is 18percent efficient, 20percent on a good day.
- 2) The process of brute force electrolysis today has been pushed to about 85percent efficiency.

Note: Based on the energy available from burning Hydrogen, by using Faraday's "Law" to translate from electrical energy it is estimated that 100percent efficient hydrogen electrolysis is achieved by creating somewhere between 5.5-7.5 milliliters of gas per minute per watt of energy consumed. Members of our research group have run the numbers several ways which all seem to point to around 7.0 m/m/w or mmw for short. Many of our cells have operated as high as 6mmw or roughly 85percent efficient

- 3) The product of electrolysis is HHO which has its own energy value, up to 85percent of what we put in.

If all we considered was the return of energy value when we inject the HHO as a supplement to gasoline, then yes, conservation of energy applies.

HOWEVER!

We believe HHO as **an additive** does more than return 85 percent of the energy we put in to create it. We believe its properties enhance the slow burning gasoline, speeding up the rate of combustion, causing much more of the total combustion process to be translated into mechanical energy rather than being lost as waste heat out the tail pipe, raising the efficiency of the total system. Returning to the simple math...

Let's say we're able to translate just 10percent more of the total system energy to mechanical energy. Seems like a reasonable goal. We have still not violated conservation of energy, only raised the total system efficiency from

18 percent to 28 percent. But that's an increase of 55percent!!! Now deduct the energy loss of 15percent to create the HHO that made this possible and you still end up with a total net gain of 40percent!

This is not rocket science. It's simple math.” ZeroFossilFuel <http://alt-nrg.org/faq.html>

Zero's hypothesis has been verified by MANY experimenters and scientists alike. Using simple physics, combined with electronics, we have been able to produce EXTREMELY efficient designs in electrolyzers, and they are growing more and more efficient every day.

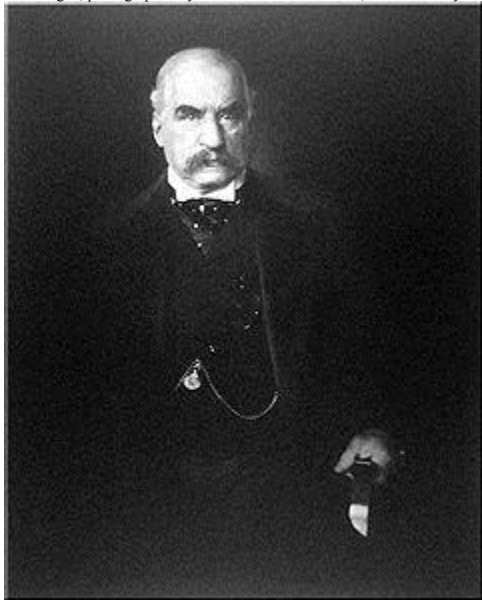
The so called “rules” that were written about electrolysis being less efficient are from the 1800s! Come on people, wake up. You've been instructed in a certain manner to believe that cheap or free energy is impossible, just because the technology wasn't available 150 years ago.

Myth #3: If HHO is so great, we'd already be using it to power our cars!

Let us think for a moment, about who does not want you to have cheap energy.

What about major energy companies? Perhaps they might have a “vested interest” in stopping fuel efficiency products or cheap energy devices, don't you think? Why would they want you to use an HHO heater when you can buy their natural gas? Do you think they really and truly want to be free from foreign oil, so the price per barrel can go DOWN and fuel will be cheap? No...of course not.

J.P. Morgan, photographed by [Edward Steichen](#) in 1903, Retrieved July 2010



What about our government? Surely they are more concerned about citizens having cheap and reliable energy, than they are about money...right? No, our Congress is run not by the bureaucrats sitting in the chairs with the little pins on their chests, but by the people who fund their campaigns, i.e. major oil and energy companies who tell them how to vote. Sound far-fetched? You be the judge.

Many people believe that the late Stan Meyer, was murdered over his invention that allowed a car to run 100 percent on water. He received multiple death threats for years due to his research in water for fuel technology. Seconds before death, he allegedly claimed that he'd been poisoned. The coroner however, ruled the cause of death to be a brain aneurism.

Nikola Tesla, considered by many to be the “Father of Free Energy”, was shut down when he told his financier, J.P. Morgan, that his invention was designed to provide free energy to the masses, and there was no way to charge money for it. Mr. Morgan was an amazing businessman, and had a very different world view than his beneficiary, Nikola Tesla. The project was one that would have provided free energy to the masses, and there was no real way to meter the use of the Wardenclyffe Tower in Colorado Springs, CO. J.P. Morgan is reported to have advised other influential people to not invest in Nikola Tesla's projects.

You are a smart person, or you would not be reading this book. Use your judgment, conspiracy theory or not...if you control energy, you have power...no pun intended. Tons of misinformation has sprouted over the years regarding cheap and efficient energy sources. Do yourself and everyone else a favor and do not fall for the misinformation, but be liberated from it instead.

A Note to Scientists, Engineers, and Lay People:

As our community grows, we are becoming more and more accepted. The purpose of this book is to inform the world about Water for Fuel technology and HHO production. This is obviously only an introduction to the world of HHO, and does not involve the more advanced aspects of the production and operation.

We aim only to educate those who are not yet familiar with HHO technology and its benefits. The future of this technology is dependent upon people like you who can help us produce more efficient ways of creating HHO gas and help get the word out.

We are not attacking Physics, but rather using Physics in such a way that helps us, instead of hindering us.

HHO has hit the market in a huge way in the past couple of years. YouTube.com is bombarded with HHO enthusiasts and inventors all doing their own research on the technology. Increases in fuel efficiency are no longer a doubt, and have been documented extensively by third-party engineering testing facilities such as California Environmental Engineering.

For specific scientific documentation, please go to: www.HybridTech-Energy.com, and click on “Hydrogen Info.”

Energy Independence:

With our entire package you will find information on different energy technologies such as wind power, solar power, and even biofuels. In this section, we are going to look at a few different, easily used and carbon neutral technologies that can be used to produce heat and power for your home.

Wood Gas (power generation/cooking/heat)

Wood gas is a carbon neutral renewable source of energy that can burn clean and can run generators to power homes, and even run vehicles.

When wood is heated, it releases this gas which is what is ACTUALLY burning in your campfire. The gas is comprised of Hydrogen, Carbon Monoxide, Carbon Dioxide, Nitrogen, and Methane. There are very simple techniques to produce and harness this clean burning fuel. As mentioned above, harnessing this fuel can allow you to be energy independent in several ways including producing your own electric power, heating your home, and even run automobiles with proper modifications.



During World War 2, people in Europe converted their vehicles to run on wood gas, also known as syngas, because there was a dramatic fuel shortage. Today, wood gas is in use for commercial power operations on islands where rice or coconut husks are their only source of fuel.

So how do you make wood gas? The process can be very simple, depending on the needs. There are commercial “gasifiers” available which can produce the gas, and clean any wood tars from the fuel making it a super clean burn. There are lots of plans available online to make your own gasifier, or you can purchase them.

In recent years, people have made gasifier stoves commercially available, along with larger gasifiers that can run an entire home with a large 20 to 40 kilowatt generator. Several companies have created camping style stove burners, than run off of very small amounts of electricity to get the process started. Small solar panels can be used to power these wood gas stoves.

If you are striving to be completely energy independent, wood gas is a good way to go if you have an abundant and low cost source of wood in your area. As seen above, wood gas can power and heat your home, run your automobile, and even cook your food. Wood is cheap, and carbon neutral.



Photo from <http://www.woodgas-stove.com/testimonials/>, Retrieved July 2010

Wood Boilers (Home Heating/Water Heating)



For home heating, wood boilers are a great way to stay warm in the winter. Units are made for both indoor and outdoor applications, depending on your ventilation setup and a variety of other things.

Basically, the “boiler” burns wood, and water circulates around the heated fire containment area. Water is then heated and pumped into the house on demand for either radiant heat or hot water for bathing or cleaning.

Another application for a wood boiler is to heat up water, which is then transferred into your home and heats up air in your existing furnace. The air can then be transferred around the house through your existing central ductwork.

Methane

Methane is a form of “natural gas”. Most people don’t consider natural gas to be a renewable resource, but rather a form of fossil fuels. This is sort of true, but methane is produced by decaying organic matter in most cases. In some cases, depending on one’s living situation, methane can actually be produced at home and used to cook, or even power generators for electricity.



The gas is formed by a process called “anaerobic digestion”. This takes place when a bacterium breaks down organic matter. Methane is then produced by the digestion of the bacteria. The resulting material can be used for compost fertilizer.

Garbage dumps, dairy farms, and even horse ranches are now using the waste from people and animals to produce methane that can run large generators for home power use.

You can even produce biogas at home with your own anaerobic methane digester. Look on YouTube.com for “methane digester” and you will see a bunch of videos related to the idea.

In the swamps of Louisiana, methane constantly leaks from the ground and we called it “swamp gas”. Decaying plant matter in the swamp bubbles up quite frequently, and people decided they would begin to use it to their benefit. To do so, they took a 30 foot long joint of PVC pipe and drilled hundreds of ½” holes all over the pipe. Then, they started to pound the joint of pipe into the soft mud in the Louisiana marsh. After the pipe was well started into the ground, they ran a water hose down the pipe, to flush out any heavy materials from inside of the pipe. Once the pipe was submerged into the mud about 27 feet and completely flushed out of heavy mud, they put an inverted 55 gallon drum over the top of the remaining 3 feet above ground. They then ran a pipe from the top of the drum, to their kitchen stoves.

The naturally occurring methane gas was collected underneath the drum, and utilized in abundance whenever they needed to cook. Many times, they would have 5 or more methane “wells” to power hot water heaters, and even small generators for electricity.

Ethanol/Moonshine



First of all, I am in no way advocating the use of ethanol distilling for illegal purposes. However, if you are low on fuel, making ethanol at home can help you achieve greater fuel efficiency of your gasoline, and its cheap!

Stock up on some brewer’s yeast and some sugar (or a starchy/sugary plant). If you have an apple or peach orchard, this should be easy for you. You can also grow your own corn for these purposes. If you do a search online, you can find ethanol stills readily available to make your own fuel at home. The fuel can be used to power a generator and run your home, or used to run an automobile. The use is up to you, but the fuel process is the same whether you run a car or drink it.

Making ethanol at home consists of two major processes. The first process makes the alcohol. This is when you mix water with smashed up fruit, or just plain old sugar, and the brewer’s yeast. This is called your “mash”. Put the mash in an airtight container for a period of between 7 and 14 days. The yeast will turn the sugar into alcohol; usually in the range of 10% to 20% of the total mix will become alcohol.



After this period of a week or two, the mash will be ready to distill. Pour the mash into the proper “still” or distillation apparatus. Heat it up to the proper temperature, and the alcohol will evaporate before the water. The alcohol vapor cools and condenses within the still’s “tower” apparatus, and then drains into whichever container you have made available. Ideally, you should use a glass container. The average still will produce about 85% alcohol, but you can get better stills that produce over 95% alcohol. To run an engine, fully, you will want it to be with as little water as possible, so get a good still. Depending on your living situation, making your own ethanol fuel can be very rewarding.

HHO Gas Resources:

To build your own Brown's Gas heaters, torches, or to help power your vehicle with HHO go to:

www.HybridTechUSA.com (HHO Cells, Information, HHO Products)

For HHO Videos: www.YouTube.com/Rain4Fuel

Bibliography

Bolle, J. (2005). *The Definitive Guide to Supplemental Hydrogen Injection*. Online.

Cella, C. (1996, October, November). A Water-Fuelled Car. *Nexus Magazine*.

Cox, J. (2000, April 5). Will Hydrogen Bomb? *The Denver Post*.

Lindemann, P. (Volume 8, No. 4). Where is all the Free Energy? *Nexus*.

McAlister, R. (2007). *The Philosopher Mechanic*. Knowledge Publications.

Wiseman, G. (1998-2010). *Cutting*. Retrieved July 2010, from www.Eagle-Research.com: <http://www.eagle-research.com/browngas/fabuses/cutting.php>

Research by Addison Bain, NASA Investigator into the Hindenburg disaster

Chambers, Stephen 'Apparatus for Producing Orthohydrogen and/or Parahydrogen' US Patent 6126794

Stanley Meyer 'Method for the Production of a Fuel Gas' US Patent 4936961

Creative Science & Research, 'Fuel From Water', www.fuelless.com

C. Michael Holler 'The Dromedary Newsletter' and 'SuperCarb Techniques'

Some photo stock purchased from: www.BigStock.com

Additional Reading:

Investigating combustion enhancement and emissions reduction with the addition of $2H_2 + O_2$ to a SI engine (SAE Tech Paper 2003-32-0011, D'Andrea et al)

Spectral analysis and chemiluminescence imaging of hydrogen addition to HSDI diesel combustion under conventional and low-temperature conditions (SAE Tech Paper 2004-01-2919, Lu et al)

Hydrogen addition for improved lean burn capability of slow and fast burning natural gas combustion chambers (SAE Tech Paper 2002-01-2686, Tunestal et al)

Experimental evaluation of SI engine operation supplemented by hydrogen gas from a compact plasma boosted reformer (SAE Tech Paper 2000-01-2206, Green et al)

Influence of hydrogen-rich-gas addition on combustion, pollutant formation and efficiency of an IC-SI engine (SAE Tech Paper 2004-01-0972, Conte et al)

A numeric investigation of NO_x formation in counterflow CH₄/H₂/Air diffusion flames (IMECE 2006-14458, Guo et al)

Disclaimer:

The information contained in this book, "You Can Turn Water into Fire" is for educational purposes only. If you decide to work with HHO gas, please consult a safety professional to advise you on proper safety precautions when dealing with explosive gases. Never attempt to bottle or compress HHO gas, and only use it on demand as needed in well ventilated areas. The gas itself is non-toxic, but is ignitable in concentrations as low as 4 percent of the ambient atmosphere so again, use only in well ventilated areas.

This book is not a "how-to" book, and is made available to you for the purposes of exposing HHO to the world as a viable fuel alternative and/or additive, depending on its use at the time.

Any claims of fuel efficiency increases or emissions reductions are from our observations only, and the observations of the quoted facilities in the book. These claims are not meant for the purposes of persuasion to purchase HHO equipment or technology. By our observations, and the observations of over 100,000 people worldwide, HHO technology is a true gift to the world.