Surviving Off-grid: Use Pipes And Ducts To Generate Electricity

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A prepper's mind will always find ways to survive when others won't see any way out of the crisis.

When it comes to generating electricity, there are many unexplored options laying right around your own home.

If you have pipes with water flowing through them, there may be several ways to generate 12 volts or more of electricity with relatively little effort.

Even if the majority of pipes in your home are made of plastic, there are still ways to make use of them, as well as every tap and drain in your home. Depending on the optimizations that you choose, you might need running water to generate electricity.

Combine systems that require flowing water with ones that don't, and you'll always have electricity as long as your house is standing.

What to Beware Around Metal Plumbing Pipes

No matter whether a house is brand new, or has been around for several decades, there are always going to be changes that may not always be obvious. Even though all of the appliances and electrical features in your house work perfectly, shorts can develop that prevent the electricity from completing its journey back to the power plant.

As a result, this electricity may start flowing through metal pipes and other fixtures in your home. Contrary to popular belief, this situation is actually very common.

Before touching and examining metal pipes and other fixtures that aren’t connected to the electrical system, take some precautions. If you aren’t sure how to set up grounding for plumbing pipes, ask a plumber. Since the amperage carried through plumbing pipes can be high enough to injure or kill, be sure you know how to work around any and all metal pipes safely.

Use the Power of Moving Water in Vertical Pipes

If you have hot water in bathroom and kitchen faucets, this water goes through vertical pipes at some point on its journey through your home. Locate the pipes where the water flows from a higher point to a lower one. Aside from any pumping pressure from the water source, you will also have the benefit of gravity speeding the water's rate of flow.

No matter whether these pipes are made of plastic or metal, you can cut into the pipe and insert a device with some kind of spinning rotor, blade, or wheel that has magnets attached to it. As the water passes over the wheel, it will cause it to spin. From there all you need to do is set up a system of coils outside the pipe that will generate electricity for you.

Depending on the length of the pipe, you may even be able to insert one device at the highest point

on the pipe, and the second one further down. You'll have to monitor the water flow rate to make sure you don't slow it up too much with too many devices.

Also, optimize the blade or rotor design for the device. Since it is likely you will be building the device yourself, have a look at shell blade designs that are emerging for optimizing wind turbines. If you must build your own system, see if you can use fiberglass or other lightweight materials.

Just avoid placing these devices in lines or taps used for drinking or food preparation unless you are sure the materials pose no threat to your health. You should also look for the smallest magnets that will generate the strongest field.

Aside from using indoor pipes, you can also use gutters or other outdoor installations where water will move from an upper elevation to a lower one. While the power from these systems may be transitory, you should be able to harvest from at least two or three points along the tubing, plus from the exhaust spout.

Remember that these tube systems can be expanded with umbrellas or other objects to increase the water capture area. Once the water has exited the spout, you may also want to see if you can store it for use in the garden or some other purpose.

https://www.youtube.com/watch?v=appMpB74B94

Video first seen on JohnnyQ90.

Take Advantage of Drains

Once you master generating power from vertical water pipes, start exploring the same kind of system for sink drains. To make this kind of system work, you'll need to open up the device fairly often to remove debris or anything else in the drain water that will catch on the blades. Use a pre-filter or some kind of other trap so that the blades stay as clean as possible.

As a way of getting started, create a blade system that simply sits in the bottom of your sink. If you already have a fairly deep sink basin, you may have more than enough room to work with. In these cases, you will be looking more for blade designs that have a flatter profile than a shell or some of the newer optimizations emerging in the wind power market.

Since some sink drain pipes are made of metal, find out if they are already capable of conducting electricity. If they are, keep reading, because there are some small changes you can make around the drain that may give you a reasonable amount of electricity at very low cost. If all of the pipes are made of plastic, you can still use the water flow to generate electricity.

Getting Electricity from Taps and Shower Heads

There are two possible locations that you can use to generate power from taps and faucets.

First, you would have to cut into the pipe just below the valves that allow water into the faucet. Even though these areas are likely to have an upward water flow, they still have a good bit of pressure behind them.

In fact, if you have ever made the same mistake of trying to remove a faucet system without closing the water valves, you will find out just how much water pressure there is!

Chances are you already have regulators on your faucets that reduce the amount of water that you use. You can achieve the same goal, and spin a rotor if you change the regulator design.

While these devices may not yet exist on the market, you can still combine rubberized faucet attachments and fiberglass blades with magnets mounted on them to achieve your goal. Just make sure that the blade system is as light as possible, so that it spins as easily from any air in the pipes as well as from the moving water.

Securing Access to In-house Pipes

As a prepper, you already know the areas where you can store your stockpile in the walls of your home. While you are exploring these options, take note of the water pipes found in the walls. Whether they are made of plastic or metal, you could modify the pipes so that they are easy to see an access without having to get into the wall space. Alternatively, you can still leave access points in the wall and cover them with paintings for other items.

Overall, the device is used to generate electricity from water pipes do not require a great deal of maintenance as long as the water is clean. If there happens to be more debris than expected in the water, you will not want to have to take an entire wall apart every time a filter needs cleaning.

Also, be aware that mice, termites, and other vermin can live for decades in the walls of your home without being detected. Even if they don't chew on parts of the device, they're moving over or through the area may jar something loose.

These are just a few reasons why it is very important to have as much access to in-house pipes used for generating electricity as possible.

Set Up Workable Valve Systems

Indoor plumbing for free is a great deal of convenience and ease.

On the other hand, plumbing leaks can be some of the most aggravating and expensive problems to deal with. Any joint for cut in a pipe is a place where weaknesses can develop and evolve into leaks. There may also be other times when you need to close off the flow of water in a fairly small area to manage your electrical generating system.

All of these situations can be more easily managed when you have valves set up that will give you more control of the water flow. For example if you have a device lodged in the downward hot and cold pipes for your bathroom sink, it would be useful to have corresponding valves somewhere upwind from that point. If you do have a problem in that area, it will be very easy to close off all water

flow from the sink without disrupting the toilet and the shower.

If the only valve in your home is sitting on the main water entrance, it can spell a great deal of trouble when you have to work in more localized areas. These valve systems can also be used to create alternate routes for the water flow.

This can be very helpful if you need to make modifications to your system, and don't necessarily want to replace all of the pipes where you were inserting devices. In these cases all you would need to do is open one set of valves and close the other until you are ready to reverse them again.

Locating Metal Pipes and Avoiding Problems

Many people are surprised to find out just how many metal pipes exist beneath their yards and lawns. In order to find out more about pipes on your own property, you can use a metal detector. Try to purchase or rent a detector that also gives you some ideas about the kind of metal used to manufacture the pipes. This information will help you figure out the best way to get the most electricity from them.

Before using these pipes for generating electricity, know what is actually going through them. For example, if the pipe is for natural gas, don't use it for any other purpose. These pipes can be very dangerous to disrupt, as well as to modify. On the other hand, if the water pipes flowing into your house are made of metal, there is no reason to avoid using them.

If your home has or previously had a septic tank and leach field system, the tank and leach field may have some metal fittings on it. Since these areas are likely to be saturated with debris from waste water, don't disturb them let alone use them.

Insofar as locating metal pipes indoors, you are also likely to find gas pipes, as well as ones for transporting oil. Avoid using any pipe that carries any kind of fuel, as you never know when electrical devices will short out, build up heat, or generate sparks. This is also something you will need to be very careful about when building and placing your devices.

What You Need to Know About Grounded and Bonded Metals

Did you know that metal plumbing pipes are often grounded? Depending on the number of pipes in your home or underneath it, there are many ways to ground or bond all of the metals so that you don't get a shock from them.

Some homes also use metal pipes in the plumbing system as a means to ground the electrical system. It is fair to say that as long as you have metal pipes anywhere in your home, there is a good chance that they are already conducting electricity. You may also find that steel cabinets or other large metal furnishings will also conduct electricity even if you aren’t aware of it.

https://www.youtube.com/watch?v=tjz_QoorocM

Video first seen on Bryan Ropar.

Before you test to find out if metal pipes and furnishings are, in fact, conducting electricity, understand the differences between bonding, grounding, and earthing. It will help you recognize each

of these methods for avoiding dangerous sharks. From there, there are two methods that you can use to determine if there is already some current flow in the pipes of your home:

- First, you can drain the water from your pipes, and then use an OHM meter to see if there is any current flowing.
- Second, you can use an EMF meter to see if there is a magnetic field around the pipes without draining the water from them. If you find a magnetic field, then there's a viable means to receive electricity from the pipes. Regardless of the source of the magnetic field, you'll be able to use it for your generating an electrical current.

Using Outdoor Buried Pipes

Once you locate underground pipes that are suitable for generating electricity, you may be surprised at just how easy it is to tap them for a viable amount of current. Just look at some of the designs for earth batteries in order to see how to make this work.

- Start off by finding out what kind of metal the buried pipes are made from.
- Next, locate a second type of metal that will create a difference in electrical potential. Do your best to choose a metal that will provide the largest amount of variance. Just about any kind of scrap metal will do, as long as it is the right kind.
- Once the two metals and wires are in place, you should be able to get a steady amount of electricity from the system. Unlike many other electrical power generation systems, you will not need to be concerned about time of day, temperature, or other weather conditions.
- Insofar as electrolyte, remember that moist soil itself can act in this capacity. You can still try using other electrolytes, or you can see if soil containing iron metabolizing bacteria can be used and require less maintenance.

When you are stressed about paying your utility bills, or concerned about the increasing risk of power loss, look for the answer to your problems in the walls of your home.

There are many ways to generate small amounts of electricity from both plastic and water pipes that can help you get on the path to energy independence.

Also explore the options and take advantage of safe metal pipes in your yard and under your lawn!

This article haa been written by Carmela Tyrell for Survivopedia.

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