Renewable Energy

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Think about it. Most of what is commonly referred to as "Renewable Energy" isn't renewable at all. Consider the word, renewable. It's an adjective. It means that when something has been used, the stock can be renewed. That renewal requires an action in order to achieve the restocking or resupply. While wind energy and solar energy may be referred to as 'clean' energy, they aren't renewed. They're just there. Turbines driven by the rise and fall of tides are in this category as well. The pressure of the tide isn't renewed. It's reversed. And, it's just there. We aren't doing a thing to replenish the supply.

At the other end of the spectrum of sources of energy, lies another cluster of sources that are just there. Their existence and use is most probably the reason that other sources of energy have been labelled renewable, even if inaccurately so. Coal, oil, and natural gas (propane) are sources that are just there, but unlike the wind and sunshine, they are renewable. Over very long periods of time, nature can and will renew these supplies. We humans, impatient as we are, decline to wait, or to think in terms of hundreds of thousands of years and so label these as 'finite' sources of energy. Gasoline, also falls into this category, but the use is largely limited to automobiles and home emergency generators.

At the very far end of the finite sources of energy, we find nuclear energy. Not only is it limited, but unlike coal and oil, which will quietly keep until we find them, nuclear material is in a constant state of decay. If we wait too long, it all turns to lead. Fortunately, that also takes hundreds of thousands of years so there is no immediate danger of the supply being depleted.

There is one source of energy that lies between the finite and renewable categories. The water source for Hydroelectric power is renewed every time evaporation turns to clouds, drifts over a mountain and turns to rain or snow. It's renewable. It's on a time scale we humans can grasp. But we aren't the ones renewing it. Nature is. So, we don't count it.

So, what sources of energy are truly renewable? The most common and readily available is wood. Trees grow. We used to cut them down and burn them in the fireplace, furnace, choo-choo trains, steam engines, and stoves. And we planted more. We humans did the renewing through our practice of forest management.

Before I get to the two remaining sources, it is worth noting that each of the above noted sources of energy also has concomitant negative affects on our environment. The remaining two, however, not only provide a renewable source of energy, but also serve to reduce other environmental problems.

Most household waste is easily converted to energy. Almost everything except the metals and glass can be burned and burned so efficiently that only very low levels of undesirable residuals are emitted into the air. The main products of a "Waste to Energy" plant are carbon dioxide, water, and electricity. The benefit is that the massive amounts of trash produced is turned into a useful product instead of being buried or set adrift in the oceans.

The last source I will mention is not renewable under most circumstances. It doesn't decay, like nuclear, and it also reduces a secondary environmental problem. It is also not strictly renewable. It is manufactured.

The energy source is close to propane (natural gas) in chemical composition. Methane is a more simple molecule than propane and is found naturally in places such as swamps. In the prior example, the garbage in our trash is sent to the furnace along with paper products and so on. Yes, banana peels do burn and do release energy. But that same garbage can be sealed up or buried, then seeded with bacteria which will convert the garbage to harvestable and usable methane. The same system can be fed with the solid waste from chicken farms, dairy farms, and anyplace where animal defecation is concentrated, even that of humans. Yard waste, all the gunk that is raked up from our beaches, debris from clearing the land for construction, farming, or the development of the huge tracts of land needed for wind and solar farms, can all be put into the methane generator. Even algae, harvested from eutrophic lakes, can be converted easily to methane. We even have the technology. It just isn't popular, and maybe it's too convenient.

How do I know all this? In 1969 I wrote my senior high school thesis on alternative sources of energy and have followed the topic ever since. I became interested in the topic when I learned that a man named William Lear invented an efficient steam engine in which the heat was generated by burning a chemical similar to propane. He sold the patent to an oil company and started manufacturing airplanes with the profit. It was very inconvenient for the oil company to allow the manufacture of an engine that didn't run on gasoline and the development and installation of methane power might be just as inconvenient for too many industries today.

As a post-script, there is another source of power that was developed primarily in the Soviet Union. It has been used to power aircraft configured either as propellor-driven or as jets for more than fifty years. Hydrogen, like methane, is also manufactured, but I am not familiar enough with the process to include it here other than as an endnote.