

**Renewable Energy Sources not considered for analysis within the scope of this agenda:**

- Geothermal is the conversion of heat from within the earth's interior into energy. Hot water or steam reservoirs necessary for energy conversion are mostly located in the western United States, Alaska, and Hawaii. This natural resource is not present in the southeast region. Alternatively, another way to use geothermal energy is as a heat sink and heat source for facility heating and air conditioning by circulating pipes underground to dissipate heat into the surrounding cool earth. This type of geothermal energy system is available and very viable in the southeast region.
- A wind energy system makes use of large wind electric turbines resembling an airplane propeller. An annual average wind speed greater than 13 mph is generally required for utility-scale wind power. Leon County experiences an average wind speed of around 5 mph.
- Hydrogen is the simplest and most abundant element in the universe. The element also has very high energy for its weight, but very low energy for its volume, so new technology is needed to store and transport it such as fuel cells. However, fuel cell technology is still in early development, needing improvements in efficiency and durability.
- Hydropower captures energy from flowing water. Leon County is generally void of rivers with a flow capable of generating power. It would be necessary to impound river water with a dam thus creating a reservoir.
- Ocean energy systems tap ocean waves, currents and tides as the renewable resource. This technology is in the infancy stage of development and would require an ocean within the boundary of Leon County.
- Biopower is the use of biomass such as municipal solid waste to generate electricity. Biopower system technologies include anaerobic digestion which captures methane for power production. The opportunity for methane biopower is being reviewed by County staff as a separate initiative directed by the Board.