

RISKY BUSINESS

What You Need To Know About...

Alternative Energy



50 percent of the world's energy will come from solar and wind by 2050.¹

In 2015, wind and solar made up only 7 percent of global electricity generation.²

DEFINITION:

Alternative energy refers to energy sources other than fossil fuels, including all renewable sources and nuclear. A renewable energy source is produced from sources that do not deplete or can be replenished within a human's lifetime.³

EXAMPLES OF ALTERNATIVE ENERGY:

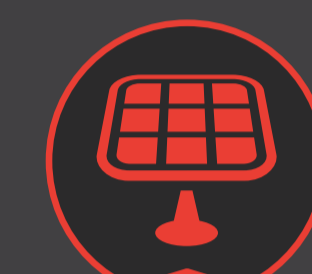
EXAMPLES OF RENEWABLE ENERGY:



Nuclear



Natural Gas



Solar



Biomass



Bio Gas



Bio Fuel/Ethanol



Wind



Geothermal



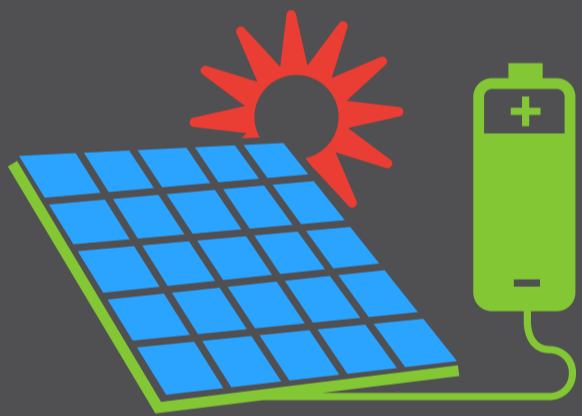
Hydrogen



Hydro Resources

EMERGING TRENDS:

ENERGY STORAGE:



Batteries are the most common type of storage devices used in renewable energy systems. Pairing a storage system with a renewable energy source ensures a steady power supply. Innovations in battery types and self-contained storage systems will increase their use in residential and grid-wide scale installations. The technology behind storage systems is expected to improve dramatically, lowering their cost and making for more widespread usage.⁴

MICROGRIDS:



Microgrids are small, self-contained grids that can operate either independently or connect to a larger traditional grid system. Traditionally used in very rural areas and by remote military installations, they are starting to be used in conjunction with renewable systems. In addition to smoothing out supply and demand issues; they also provide protection during emergencies and outages.⁵

PREVENTIVE MAINTENANCE:

All types of alternative energy systems are prone to the same breakdown issues as traditional systems, such as electrical failures, overheating, fire and physical damage from weather and misuse.

Suggestions for energy system loss prevention:



Inspect the integrity of mechanical and electrical connections at least once each year.



Consider the implementation of a formal electrical preventative maintenance program.



Develop and implement a formal scheduled inspection and maintenance program for the entire system.



Ensure that solar panels are clean and not subject to excessive shading. Trim trees to avoid overhanging branches.



Ensure that solar panel inverters are installed in weather-protected, shaded areas and consider a testing and inspection program for electrical connections and inverters.

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References

¹ <https://about.bnef.com/new-energy-outlook/>

² <https://www.popularmechanics.com/science/energy/a21756137/renewables-50-percent-energy-2050/>

³ <https://www.studentenergy.org/topics/alternative-energy>

⁴ <https://www.forbes.com/sites/jamesellsmoor/2018/12/30/6-renewable-energy-trends-to-watch-in-2019/#2af13cb54a1f>

⁵ <https://microgridknowledge.com/us-microgrid-market-gtm/>