WHAT'S UP WITH WIND?

NAME _____

Making smart energy choices means understanding alternative resources and their costs and benefits. The issue tree below highlights important points about wind energy. Study the way the information is organized. Then choose another energy source from the list, research it, and develop your own issue tree on the back of this page.

Natural Gas **Solar Power** **Biofuel** **Hydropower**

Wind Energy

A How it works
- Wind spins the blades on a wind turbine, creating kinetic energy (energy of motion)
- Generator transforms kinetic energy to electrical energy

B Statistics
- Provides less than one percent of U.S. electricity
- Requires 8-13 mph winds depending on size of operation
- Production costs vary

C Benefits
- Relatively cheap: cost has dropped by 85% over 20 years
- Clean energy: no air or water pollution
- Useful in remote areas with harsh conditions

D Drawbacks
- Large scale wind farms use a lot of land area (possible use of space between wind machines for agricultural purposes)
- Inconsistent wind (can use back-up batteries and wind combined with other energy, like solar power)
- Visual impact of wind farms
- Concerns over impact on migrating birds

Challenge: Research wind turbine use within the United States. Include the answer to the question: How many houses could be powered by a single wind turbine? Start with the sites below.

www.shell.us/future-energy/wind.html
www.eere.energy.gov/wind
www.nrel.gov/wind

Visit www.shell.us/energizeyourfuture to learn more about energy sources and play some fun games.