

### **FloDesign Problem Statement Video Script**

Jason – As you know, we have a novel design for a wind turbine with a smaller footprint than your typical prop blade turbine. Because the old style props are so big, they spin slowly so they don't break apart. The slow speed means they have to use large gearboxes to extract energy from the wind. Our new design rotates much faster so don't need to use a large gear box. We have the option to explore other ways of converting mechanical energy of rotation to electrical energy.

Christian - I saw a wind farm out in California. Those turbines were huge! Are yours as big?

Jason – No, they're only about ten feet in diameter; a typical turbine is around 150 feet in diameter.

Chase – Wind power is really cool, but aren't there environmental dangers?

Katie – Yeah, like killing birds!

Jason – We've conducted studies that show that our new turbines are safer for birds because they are much smaller. They're quieter, too, so they're less likely to cause noise complaints from the neighbors.

Christian – Wow, that's cool! How can we help?

Jason –We'd like you to develop some new concepts for extracting electrical energy from the mechanical energy of the new wind turbine.

Chase – When do you need this by?

Jason – We need a working model in three months. Remember that your design needs to be simple, efficient, and cost-effective.