



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Remy S. Campbell</b>	<b>Project Number</b> <b>J0205</b>
<b>Project Title</b> <b>Sawmill Waste Biomass Powering the Future</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The goal of my project was to determine what wood-based waste material produces the most British Thermal Units (BTUs).</p> <p><b>Methods/Materials</b> Douglas fir, coast redwood, and a mixture of both of these wood byproducts from a sawmill were used for my experiment. A Moisture Balancer was used to determine the BTUs based on the moisture content and densities of the woods.</p> <p><b>Results</b> The mixture of Douglas fir and redwood material produced the most BTUs, while the redwood material produced the least amount of BTUs, informing me that the mixed material is the most effective source of energy out of the three.</p> <p><b>Conclusions/Discussion</b> My conclusion is that the mixed product produced the most BTU#s because the Douglas fir burns up really fast releasing a lot of BTU#s while the redwood burns up slower but producing less BTU#s. Together the mixture produces an increased amount of BTUs over a longer period of time.</p>	
<b>Summary Statement</b> I showed that a mixture of wood waste materials produces more BTUs over a longer period of time	
<b>Help Received</b> I learned how to use the Moisture Balancer machine and the industry standards from the manager of the power plant	