



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

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<b>Project Title</b> From Waste to Watts	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> In this experiment, I tested which animals# waste produces the most easily harnessed methane energy.</p> <p><b>Methods/Materials</b> I used animal waste from cow, horse, dog and pig to undergo fermentation and harvest methane gas, which can then be converted to energy. I will need to be able to harness the energy quickly and efficiently to make sure I get maximum methane output. From there I need to find a way to measure and analyze the methane collected and carry out calculations to convert the information.</p> <p><b>Results</b> I found that cow waste has the potential to produce more energy than any other animal because it produces a long-term count of methane gas. It was able to produce easily captured methane for over a month and still continues to produce weeks later. It can reach its full methane potential from 75 degree Fahrenheit incubation. Overall, cow waste has a great potential for making a cleaner planet and a cleaner source of power.</p> <p><b>Conclusions/Discussion</b> My research has proved my research-based hypothesis correct. I hypothesized that if cow waste undergoes fermentation fastest, then it will make the most stable and usable methane gas because fermentation helps to produce methane. Finally the dog waste didn#t produce any methane but I do have a solution to that problem. It needed to be incubated at a higher temperature in order to produce any methane. All in all my experiment was a large success because I have found a cleaner source of energy for us to make a cleaner society.</p>	
<b>Summary Statement</b> I found a way to harvest green, usable energy produced from the methane gases from animal waste and identify the animal waste with the highest energy potential.	
<b>Help Received</b> I worked alone on this project and only had help from my mom getting the animal waste from the local farm.	