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Zoo Launches 'Poop To Power' Plan

## **Researchers Using Elephant Waste To Generate Energy**

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**DENVER** -- Staffers at the Denver Zoo are teaming up with researchers at the University of Colorado in Denver to turn poop into power, Denver's KMGH TV reported.

"We need to do something with this. We want to clean it. And, if we can, we want to gain additional benefits from it," said George Pond, vice president of planning and capital projects at the zoo.

Asian elephants Mimi and Dolly weigh 10,100 and 7,600 pounds, respectively. They each produce 75 to 100 pounds of waste every day.

Using a mechanical press attached to a homemade workbench, staffers squeeze the water out of the elephant dung. What's left of the liquid and the solid matter are then used in two different processes.

In the process called gasification, the solid matter is heated, generating electricity in an as-yet unbuilt facility on zoo grounds.

"Gasification is the high-temperature, controlled oxygen conversion of solid fuel into energy," Pond said.

The concentrated liquid waste is sent to Dr. Jason Ren, a bioenergy researcher at UC Denver. He contacted Pond after seeing a story on 7NEWS about the zoo's efforts to go green.

"Right now I cannot guarantee it can power the whole house, but at least, I mean, in some years we are hoping we can power a TV or refrigerator," Ren said.

Ren takes the liquefied poop, delivered to him in gallon jugs, and pours it into a handful of small, gas reactors. Inside the reactors are hungry, common bacteria taken from a local wastewater treatment plant and bushy, graphite brushes.

The top of the reactor is attached to electrical wires, transferring the energy to a smaller, square converter box.

The box produces enough electricity to power a couple of strands of Christmas lights. But Ren thinks the application eventually could turn America's existing water treatment plants into power plants -- producing electricity from the water they are already cleaning.

At the zoo, excitement is high that the experiment could help trim utility bills by 15 percent, and reduce heavy, expensive trips to the landfill to unload tons of unused animal waste.

Pond hopes to save the zoo \$200,000 a year, if the Poop to Power plan pays off.

"It's a very catchy name also. So, yeah, I got very excited. And I didn't see any person in the world doing that right now," Ren said.

Both men believe that Denver's effort is the first of its kind anywhere.

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**Video: Zoo Hopes To Turn Poop To Power**

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