Janicki Omni-processor

Funded by Bill and Melinda Gates Foundation

How Ground water gets contaminated with biological waste.

Residential waste	**Fuel oil** **Pesticides in lawns** **Septic systems** **Sewer lines** **Swimming pools chemicals involved**
Municipal waste	**Municipal sewer lines** **Municipal toilets** **Transfer stations (waste)** **Land fills** **Storm water(drain overflow (seeps into ground)**

What is Janicki Omni-Processor

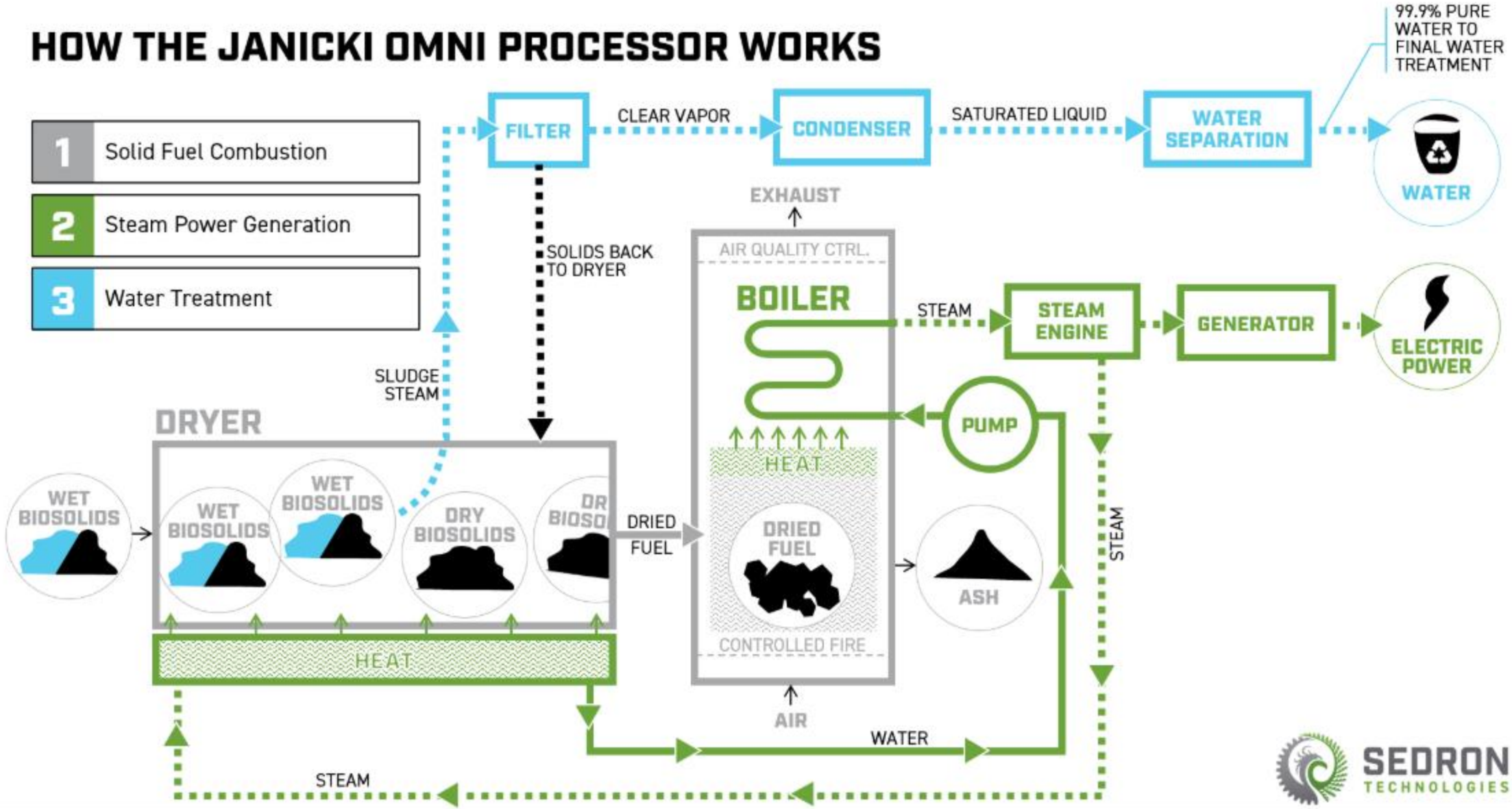
- Converts sludge and sewer waste into clean drinking water and electricity is produced.

- More over prevents the waste from entring the water system.

Why would anyone want to turn waste into drinking water and electricity?

- Because a shocking number of people, at least 2 billion, use latrines that aren't properly drained. Others simply defecate out in the open. The waste contaminates drinking water for millions of people, with horrific consequences: Diseases caused by poor sanitation kill some 700,000 children every year, and they prevent many more from fully developing mentally and physically.
- As the latrines aren't properly drained they are also contaminating the ground fresh water.

HOW THE JANICKI OMNI PROCESSOR WORKS



SEDRON TECHNOLOGIES

Success of J-Omni processors

- Can process 12.3 cubic meters of sewer sludge
- to produce 10,800 liters of drinking water
- and 150kW of electricity, though this can be increased if less water is needed.
- The water, which can be produced with sewage that has a moisture content of up to 84%, is both FDA and WHA approved.

Review of the pilot project being run in Dakar Senegal

- in the first year, processed an estimated 700 dry metric tons of fecal sludge,
- • achieved complete absence of pathogens in the resulting outputs,
- • produced clean water
- Produced electricity

Parameter	Pilot J-OP
Footprint	472 m^2
Labor Required	2–3 people per shift
Overall Capacity	6.3 dry tons per day
Technology	V1 single engine J-OP
Inputs	
Wet Sludge Entering Dryer	10.5 tons per day
Feedstock Types Accepted	Dewatered fecal sludge
Outputs	
Gross Electricity Production	110 kW–115 kW (design)
Net Electricity Production	55kW
Water Production	1,080 liters per day
Ash	1.588 tons per day
Heat	Low grade waste heat available for local use
Air Emissions	Meets applicable EPA/local air standards

- Implementing this technology in Mumbai will be a great success because in Mumbai there are a lot of slums and the disposal of their faecal waste is improper. The faecal waste is thrown into pits from where it seeps down into the fresh ground water and contaminates it with biological matter and bacterial infection.
- To control the ground water contamination,J-Omni-processor should be installed in the province of Mumbai because it produces 3 thing electricity, water and combusted Ash, The combusted Ash can be used as fertilizer.

Citation

- Gates, Bill. "Update: What Ever Happened To The Machine That Turns Feces Into Water?". Gatesnotes.Com, 2020, https://www.gatesnotes.com/Development/Omni-Processor-Update. Accessed 22 Feb 2020.
- "The Omniprocessor: Linking Sanitation And Energy In Developing Countries". Power Technology | Energy News And Market Analysis, 2015, https://www.power-technology.com/features/featurethe-omniprocessor-linking-sanitation-and-energy-in-developing-countries-4516911/. Accessed 22 Feb 2020.
- Epa.Gov, 2020, https://www.epa.gov/sites/production/files/2015-08/documents/mgwc-gwc1.pdf. Accessed 22 Feb 2020.
- "Project Overview | Sedron Technologies". Sedron.Com, 2020, https://www.sedron.com/dakar-pilot/project-overview/. Accessed 22 Feb 2020.