

The Panic of 2020

By Megan Roy

The dark room is silent, save the dull murmur of the television screen. A man is bound and slouched in the corner alone. The back of his head rests on the coarse wall behind him as he watches the news. "By George, they've finally done it."

In New York City, a throng of people had been waiting impatiently for this moment for countless hours. Talking, singing, performances, and other forms of entertainment were only things to pass the time until this moment. Now, the sky is dark, and everyone is bundled in their coats and scarves, every fifth person wearing "2020" glasses in their traditional ritual of bringing in the New Year. "Look mom! I have 20, 20 vision!" The music is fading and the ball begins to light up. Slowly, almost ominously, the ball begins to drop. The crowd is chanting, "Ten, nine, eight, seven..." Everyone is smiling. "Six, five, four..." Stomachs are fluttering with anticipation. "Three, two, one!" The lights of the ball and the city surge and are snuffed out.

The media was immediately on this new story. Reports piled into newsrooms from other parts of the country; blackouts had occurred there too. "Panic has spread across America" stated a broadcaster. "This crisis and eminent demand for energy is impossible for companies to cater to." The confusion in the city was unmatched since the horrid day in September 2001. Was it a terrorist attack? A prank? Did the power of the whole city just simply go out? Would it come back? This would certainly be a new year to remember.

Professor Stousser owned the only home with electricity in Cortland, New York. When neighbors or a passerby happened to see a light on in his home, they'd question him, "How do you get the power for that electricity?" He would simply answer "From the field." Puzzled, the people would walk off and classify the professor as mad. After all, he did live alone on a farm. He was known to talk to his many cows.

Stousser was a former professor of biology currently spending his retirement as a dairy farmer. He was known for his simplicity and affection towards nature. However, one day, Stousser disappeared. He had no family, except for his cows.

Now he was sitting in a dark room, somewhere very far away. Had he not been drugged, perhaps he might have known where he was before two men came up and kicked him, "Hello. You are in Saudi Arabia."

Stousser understood. America had run out of domestic oil in 2017, which was not at all expected. In 2013 there had been a campaign to switch from less efficient and more expensive electric heat to oil. By order of the president, everyone had converted; America now ran solely on oil. Since oil had become mandatory, the United States had made a treaty with the Middle East; they would provide America with oil if America promised to not interfere with their foreign affairs and pay one hundred million in subsidies a year.

"They are trying to take power from the U.S." Stousser realized. "They are trying to become the world power ... But what do they want with me?" It was all becoming clear when they allowed him his only

international broadcast in which he would plea for his life. He was the only self-sufficient citizen in America. He held the knowledge needed to create a self-sufficient country.

In return for Stousser's release, the Middle East demanded that the United States give their governmental authority to the Saudi Arabian government. America, seeing how foolish it would be to save one life at the expense of a long-lived and successful country, denied this offer. Stousser was not surprised by the answer. He knew what he had to do—that there was one thing he must impart to the citizens of the United States. In his twenty seconds allowed to him, he spoke calmly and confidently; "The answer to America's problem lies in the fields." After the broadcast, a gun was fired. Stousser's body lay motionless on the cold, hard floor.

* * *

This disturbing message troubled many. Scientists from different parts of the globe began to collaborate and try to find the answer to the riddle Stousser left. Blandier, a young scientist from Brown University, decided to devote his life to this cause.

Blandier was an exuberant young man who loved a good challenge. Trying to solve a riddle that could save the country intrigued him greatly. He promptly began his quest for the solution at that very unique place—Stousser's home.

As Blandier turned the knob of the old farm house, he peeked in to see what he'd find. Only a few spider webs, perhaps not more than usual, hung in corners of the walls. The house was a blank. He scoured countertops, cabinets, tables, drawers. From the attic to the basement, nothing held a clue. Blandier repeated under his breath, "The answer lies in the field." He quickly picked up his bag and walked out the screen door.

* * *

Outside, the grass was tall and overgrown in the pasture. The cows had been taken away with Stousser's belongings soon after his disappearance. Blandier walked the perimeter—nothing. He stopped to look at the sky. It was a beautiful and serene spring day with large white clouds floating on a sea of blue. "The answer, lies in the field" he repeated once again. "I must be getting close, I can feel it." He began to walk towards the barn. "The answer ... lies in ... the field ... the field ... the field!" And with that, Blandier took a determined step forward ... into a large pile of cow manure. His foot sunk in, and he looked down. "Yuck!" he exclaimed, disgusted, shaking his foot and wiping it on the clean grass.

He turned to leave. "Well, this was a complete waste of time," he thought to himself. When he reached the screen door, he looked over his shoulder back into the pasture. A light bulb went on—quite literally, in fact. A small light by the door turned on, all by itself. "How did that happen!" thought Blandier. "Hello, who's there?" he said, but no one answered. He decided to be brave once more and search the barn. After applying much force, the rusty red-colored door creaked open. To Blandier's surprise, there were other lights on in the barn as well. "Where could this power be coming from? There is no other place in the United States with power!" He began to look around the barn, in the empty stalls, among the piles of hay, in the feeding troughs, but he couldn't find anything that could be producing the energy that was powering the lights. When he reached the far end of the barn, he stopped. A bulky machine, although in reality it was not that large, sat in the corner. By it, sat a shovel with dried-up manure encrusted on its edges, leaned up against the machine. He had found the source of energy: a line running from the machine was connected to all of the appliances that were still working. "Now that I know where it's coming from, what is it?" thought Blandier. He went back into Stousser's farm house to see if he could find this out too.

* * *

From the previous examination of the house, Blandier had come upon a library on the main floor. This library was filled to the ceiling with shelves and shelves of books. "He must have liked to read," Blandier knelt to examine his scientific books, "Ah-ha! A book on energy." As he pulled it out, he knew he had made the right decision. On the front cover a picture was engraved of the same massive machine he had seen in the barn.

He pounded down the narrow stairs into the living room and sat on the floor. He turned the pages quickly. "It is a biogas digester—used to produce methane gas from waste." Blandier paused. "Waste ... in the field ... cow manure!" Now he understood. Unknowingly, he had stumbled upon the answer to America's problem when he placed his foot in the pile of cow manure. "The lights are lit from the methane gas! Ingenious." He quickly placed the book under his arm and drove himself home.

After pulling in the driveway, Blandier sat thinking back over what had happened. "Why would they have kidnapped Stousser? ... he was just being self-efficient and using an alternate source of energy." He stopped, then realized that he had just answered his own question. "We aren't *supposed* to be self sufficient. Stousser knew how we could be. Had he shared his knowledge that he retained from so many years back, everyone in America could be self-sufficient!" It all made sense. "They did not want him teaching America, and the world, how to be self-sufficient so that they would not have to depend on any other country for their oil."

* * *

That same night, Blandier caught a plane to Washington D.C. "I need to speak to the president. It is of the utmost importance." The staff looked at him as though he were insane. Somehow, however, he managed to persuade them and before he knew it, he was standing in front of the president of the United States himself. "Mr. President," began Blandier, "I have solved Stousser's riddle for the nation!" The president's eyes widened. Little did Blandier know, the president had just been considering a paper proposing to give the Middle East control over America. "The answer, sir, is on my shoe!" In a brash motion he lifted his foot and placed it on the desk. "Waste!" Blandier proudly declared.

"Do explain."

"Here, look, I found this book and this machine at Professor Stousser's house." The president slowly put the paper aside, and took up the book instead.

The president read through some pages, then shut it abruptly.

"Fascinating." He breathed.

"Do you understand now? We can be self-sufficient! We do not need other countries; instead, we can supply our very own households with energy from our waste!" The president leaned back in his chair. The proposal he had been reading now lay crumpled and torn in the trash can beside his desk.

* * *

America was officially saved, thanks to Stousser's hint and Blandier's brains. Methane was now the renewable source of energy most widely used and depended upon by American citizens. Each family could provide enough energy for themselves just from their waste. Families began to save money, and life expectancy even increased due to the burning of methane's positive effect on the environment. Stousser, although deceased, was given the Nobel Prize and will forever be lovingly referred to as the man who saved America from losing its power after the Panic of 2020.

Afterword

I learned a lot through this study. In researching this topic, I found out that biogas digesters were very interesting and effective in producing energy, as well as being environmental friendly and inexpensive. I learned that they have been used for many years in countries around the world, however not much in the United States. The starting point for the project was then based on this, "If methane is renewable, effective, and easy to come by, why is it not as widely used in America today?"

Biogas digesters give off methane through the anaerobic respiration from the bacteria in waste. The methane that is given off is a gas that is able to be burned or converted into electricity. Since it comes from waste, methane is an especially renewable resource that is easy to come by.

When methane is burned, the result is better for the atmosphere versus having free methane in the air. This is because methane is a greenhouse gas thirty times more powerful than carbon dioxide. By burning methane and converting it to carbon dioxide, the atmosphere undergoes less damage from ozone depletion and global warming. Although carbon dioxide is produced, harnessing methane is the ultimate form of recycling: when methane is burned, the amount of carbon dioxide that is released is the same amount taken in by the plants that are decomposing. So that, in a sense, the carbon dioxide that was already in the atmosphere and was taken by the plants is returning to the atmosphere, keeping the original balance that was created on Earth for a reason. And, after all of the methane is extracted from the waste, what is left in the biogas digester is perfect fertilizer because all of the nutrients are left behind.

Using methane gas is fairly cheap for its effectiveness. During the development of his biogas digester around 1975, B.T. Lingappa, a former professor of biology at the College of the Holy Cross, estimated that it would cost \$3,000 to install a working biogas digester that could provide enough power for the average New England household. Considering that this is a flat fee, methane gas is noticeably less expensive than many other forms of energy. Another benefit of using methane would be reducing our dependency on other countries. As referred to in the story, people could be self-sufficient. If this could happen, no one would have to worry about things like the power going out.

A biogas digester has some downsides: it is dirty, and it is not as effective in cold temperatures. However, although waste is used, the process is not unsanitary if it is handled correctly. Many people prefer "cleaner" renewable energy because that is the kind of society we live in—people in third world countries have depended on methane as their energy resource for generations. It seems America does not like the thought of functioning as a third world country. Maybe this is why people have not spent enough time trying to harness energy from waste and have instead tried to harness it from geothermal, wind, and the sun. Not that there is anything wrong with these forms of energy, but there is one thing methane does have that sets it apart from the other forms of energy—it is dependable.

If it is not a windy day, the bacteria will still be breaking down the waste. If there is no sun shining, the bacteria will still be breaking down the waste. The more difficult part to address is if there was no heat. Some heat is needed in order to carry out anaerobic respiration, however just room temperature is enough for satisfactory production. When it comes to that, the main problem is that the process is underdeveloped. What if a biogas digester was created that could save some of its energy to heat itself when it dropped below a certain temperature?

What if someone could boil water from their grass clippings? What if someone could cook their meals from the energy given off by their septic tank? This information on methane is not new—in the 1880s, street lamps were lit from gas coming out of the sewers. Today, pig farms are run on pig manure and AT&T cools and heats one of its manufacturing facilities with methane from a landfill.

Methane is indeed the ultimate form of recycling that provides us with "fuel for the future." And through recycling, we can best take care of our environment and our energy needs.