

## **EMA Corporate Platinum Partner Spotlight Featuring: Renewable Energy Group, Inc.**

### **Keeping Water Out of Storage Tanks:**

**How do you prevent water, corrosion and microbe issues in fuel tanks?**

**Hint: It's not the fuel.**

Biodiesel does not cause water issues in fuel tanks. Let's get that out of the way. You may have heard differently, but the truth is that water is everywhere in our environment and is a concern with all fuels. That's why storing fuel — be it biodiesel, ultra-low sulfur diesel, heating oil, or blended Bioheat® fuel — in a clean, dry tank is critical. In fact, water is the common denominator for two major issues with fuel storage: microbial contamination and corrosion. Let's address these one at a time.

### **Water**

No fuel can create water, including biodiesel. Also, dissolved water isn't the issue — free water is the problem. If there's a way for free water to get into any fuel tank, it will be there. Once a fuel tank has free water in it, it is likely to cause issues, one of which is microbial growth. Sources of free water include rain and condensation from combinations of warm days and cool evenings or warm air above ground and cool underground temperatures.

### **Microbial Contamination**

Free water is the root cause for microbial activity in tanks. Sulfur compounds historically acted as antimicrobial agents, which wasn't fully realized until lower sulfur levels in ultra-low sulfur heating oil (ULSHO) and ultra-low sulfur diesel (ULSD) were observed to allow more microbial growth. Biodiesel has received some of the blame simply because its use became more widespread at the same time ULSHO and ULSD were introduced. However, the temperature and chemical environments in the pipes and vessels in biodiesel production processes actually inhibit microbial growth. Also, biodiesel storage tanks and transport loads are less likely to contain free water than petroleum products. The outside world is full of microbes in the air, dirt and surface water, which means some microbes will always be present in an underground fuel tank. But keep in mind

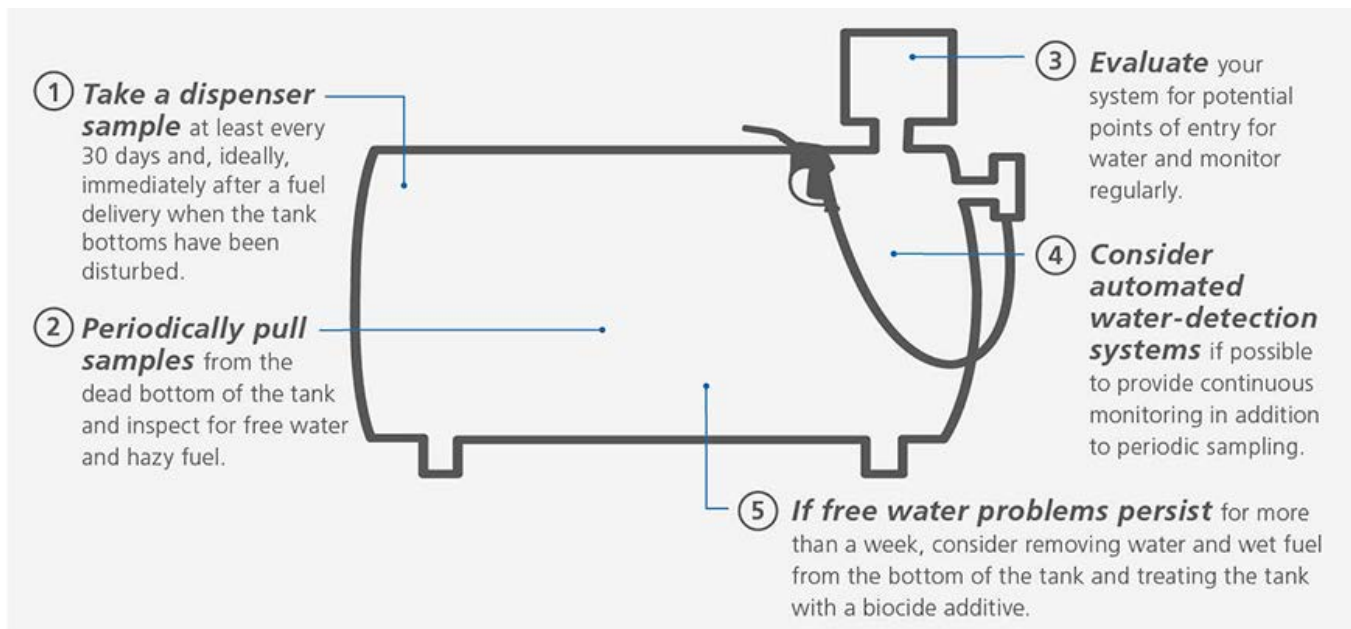
that presence alone doesn't cause the problems — the problems occur when microbes are allowed to reproduce and flourish. This requires a free water layer in the bottom of a tank and time for the microbial population to grow unchecked.

## Corrosion

Excessive microbial growth can contribute to corrosion in a storage tank (remember, this requires the presence of free water). Any kind of fuel can act as a feedstock for these microorganisms. They live in the water layer, eat fuel molecules and some can excrete corrosive molecules such as acetic acid. Corrosive molecules can affect tank walls, pipes, fittings and pump parts, and can cause rust to accumulate in dispenser filters.

## 5 Fuel Storage Tips

Clean, dry tanks are important to ensure your systems run properly. Here are five tips to keep your tanks clean and minimize the chances of water getting into the tank.



## Turn to the Experts

REG understands minimizing tank corrosion is important. That's why we educate customers on the potential impacts of free water in a fuel tank. Our technical services team is ready to help and can be reached at 844-405-0160.

For additional information about Renewable Energy Group, Inc., please [visit](#) or contact [Scott Nemec](#). **Renewable Energy Group is a EMA Corporate Platinum Partner.**