

THE FUTURE OF RENEWABLE FUELS IN THE TRUCKING INDUSTRY

As the world looks for ways to become more energy efficient and reduce its reliance on fossil fuels, the trucking industry is turning to renewable energy sources to power its vehicles. There are a number of different renewable energy sources that are being used or researched for use in the trucking industry, each with its own advantages and disadvantages.

Biodiesel Fuel For The Trucking Industry

One renewable energy source that is being used increasingly in the trucking industry is biodiesel. Biodiesel is a renewable fuel made from plant oils or animal fats and can be used in any diesel engine with little or no modification. Typically, renewable diesel is blended with a certain percentage of standard diesel which allows you to easily drop it into an existing truck without voiding the OEM warranty. Biodiesel has a number of advantages over traditional fossil fuels, including its renewable nature, its lower emissions of greenhouse gases and air pollutants, and its potential to reduce dependence on foreign oil. However, biodiesel also has some disadvantages, such as its higher production costs and the fact that it can degrade more quickly than fossil fuels when stored for long periods of time. Additionally, there is a limited amount of feedstock available to make renewable diesel. Conservative estimates indicate that if all available feedstock was used to make renewable diesel, it would produce a mere 3 billion gallons. To put that in perspective, in 2021 over 46 billion gallons of diesel fuel was consumed by the transportation industry.

Natural Gas For The Trucking Industry

Another renewable energy source that is being used in the trucking industry is natural gas. Natural gas is a clean-burning fossil fuel that is abundant in many parts of the world, including the United States. Natural gas vehicles (NGV) have a number of advantages over traditional diesel vehicles, including lower emissions of greenhouse gases and air pollutants, and lower operating costs. However, NGVs also have some disadvantages, such as a shorter driving range than diesel vehicles and a lack of infrastructure for refueling natural gas vehicles in many parts of the world. Moreover, natural gas can't be dropped into an existing truck, although there are retrofit kits available for some vehicles. Currently, the investment for a natural gas truck is roughly thirty to fifty thousand more than a standard diesel truck. As the demand for these rigs continues, the price will likely become more reasonable in the next five to seven years.

Electric Vehicles For The Trucking Industry

A third renewable energy source that is being used in the trucking industry is electricity. Electric trucks are powered by batteries, which can be recharged by plugging them into the electrical grid. Electric trucks have a number of advantages over traditional diesel trucks, including zero emissions, lower operating costs, and the potential to be powered by renewable energy sources such as solar or wind power. However, electric trucks also have some disadvantages, such as a shorter driving range than gasoline or diesel trucks and a lack of infrastructure for charging electric trucks in many parts of the world. Furthermore, the time to recharge a class-A truck in order to achieve the same fill time as a diesel truck (10-15 minutes) would require a 1-megawatt charger. Most charging stations today provide 300-350 kilowatt chargers which means it would take 45 minutes to an hour to charge a class-A truck.

Hydrogen Vehicles For The Trucking Industry

A fourth renewable energy source that is being used in the trucking industry is hydrogen. Hydrogen fuel cells convert hydrogen into electrical power, which can then be used to power a vehicle. Hydrogen vehicles have a number of advantages over traditional diesel vehicles, including zero emissions and longer driving ranges. There are two main disadvantages of hydrogen-powered vehicles. The first is a lack of infrastructure for refueling hydrogen vehicles in the United States. Additionally, hydrogen vehicles are currently quite expensive, with the cost of a hydrogen fuel cell truck estimated to be around \$200,000. Europe has had a head start on this technology for the last 25 years as evidenced by the European trucking industry moving from hundreds of hydrogen-powered vehicles to roughly ten thousand over the next ten years.

Considering the TCO Parity

When transitioning to renewable energy fuels, trucking companies must consider factors beyond the cost of the fuel itself. This is because switching from traditional fossil fuels to alternative sources like biofuels or electricity results in additional costs related to transportation and logistics. For example, upgrading a fleet of diesel trucks to electric power will require the purchase of new vehicles, as well as the installation of charging infrastructure at fueling stations. Additionally, the variable nature of renewable energy can make it challenging to ensure reliable and efficient operations. As a result, trucking companies must not only be aware of the total cost of ownership parity when upgrading to more sustainable fuel options but must also take into account other factors that contribute to costs over time. Ultimately, by carefully weighing all of these considerations, companies can ensure that their investments in clean energy are truly worthwhile.

The Advantages of Being In The Shell Family

Shell MS Fuel Card is poised to help our customers save on renewable energy fuels as the industry develops. Founded over a hundred years ago, Shell has always been on

the cutting edge of energy innovation. From the discovery and development of synthetic fuels for cars in the original Oil Age to their investment in alternative renewable fuels and their commitment to deploy those technologies throughout their fleet, Shell is constantly working to provide drivers with savings and efficiency benefits. And with surges in renewable energy sources and the emergence of biofuels, Shell is poised to help companies across all industries remain competitive as they look to save money and reduce their carbon footprint. Whether they are looking for B20 biodiesel or something more innovative like hydro-treated vegetable oil (HVO), trucking companies can count on Shell to have them covered. So, if you're looking for an industry leader that's always ahead of the curve when it comes to affordable and sustainable fuel solutions, look no further than Shell MS Fuel Card.