

## WALMART TESTS NEW HYBRID TRUCKS, ALTERNATIVE FUELS

*Company testing innovative technologies to help double fleet efficiency*

**Class 8 Truck** – This is the industry classification for the type of trucks Walmart uses to haul its trailers and deliver product to its stores.

Class 8 trucks have a Gross Vehicle Weight Rating (GVWR) of 33,001 pounds or more, three axels and 10 tires. Vehicles that fall under this rating include tractor-trailers (50'), moving trucks, freight trucks, concrete trucks, gravel trucks and articulated buses.

**ArvinMeritor Hybrid Propulsion** – Walmart will test in the Detroit area, this first of its kind dual-mode diesel-electric hybrid. The ArvinMeritor hybrid has both mechanical and electrical propulsion systems, which use the electric motor drive primarily for periods of high demand under low-speed, high-load operating conditions, such as accelerating from a stop. Once moving, the mechanical propulsion system begins to blend its power with the electric motor until it reaches highway speeds, where the drive phases to completely mechanical. The electrical system can provide additional power during hill climbing, even at highway speeds. In addition to its work at highway speeds, the engine also charges an onboard energy storage system, which provides power to the electric motor when demand is high. Energy that is generated during braking is captured and stored using regenerative braking.

This technology could help Walmart increase its fleet efficiency by up to 25 percent.

**Biodiesel (waste/brown grease) Truck** – Walmart will test in the Phoenix, Ariz, area, 15 Class 8 trucks retrofitted to run on reclaimed grease fuel made of waste brown cooking grease from Walmart stores. This partnership provides Walmart the opportunity to develop a closed loop solution for the waste cooking grease it generates in its stores and Sam's Club locations. This technology could help Walmart increase its fleet efficiency by up to two percent.

In addition, the remaining trucks located in the Buckeye, Ariz. distribution center will operate on an 80/20 blend of biodiesel made of waste yellow cooking oil.

Biodiesel is a renewable fuel produced from agricultural resources such as vegetable oils. In the United States, most biodiesel is made from soybean oil; however canola oil, sunflower oil, recycled cooking oils and animal fats are also used.

**Peterbilt/Eaton Hybrid Assist** – Walmart is the first fleet to test parallel diesel-electric hybrid power in Class 8 trucks. The Peterbilt/Eaton hybrid provides electric power to assist the motor and also serves as the Auxiliary Power Unit (APU) – helping to significantly reduce engine idling. The electric motor kicks in when the truck needs extra power, such as accelerating from a stop or when going uphill. The diesel-electric hybrids are being tested in Dallas, Houston, Atlanta, Southern California and the Baltimore/Washington D.C. region. This technology could help Walmart increase its fleet efficiency by up to seven percent.

**LNG Truck** – In partnership with Mojave Air Quality Management District, Walmart will test five trucks (four Class 8 and one yard truck) retrofitted to operate on Liquefied natural gas or LNG. LNG is formed by condensing natural gas to a liquid by chilling it to about -260 degrees Fahrenheit at atmospheric pressure. This process reduces its volume by more than 600 times. This technology could help Walmart reduce its environmental footprint.