

The United States has abundant resources of natural gas from the shale boom that enabled huge increases in production. There is a challenge around the specific type of engine and the availability of fueling stations for trucks using shale gas, which will require additional technology and infrastructure investments. CNG can be used in diesel engines with better fuel consumption. Regarding sustainability, it is still a fossil fuel and its production leaves a huge carbon footprint.

Energy storage for electric vehicles in the cargo industry is still a big challenge with regard to safety, size, cost and overall management of the battery.

The cost of truck downtime during charging may make it less appealing in some supply chains.

Besides, after full charging, a truck can run on average for about 350 kilometers, while most long shipments are 1000 kilometers or more.

We should keep in mind that the local electricity network gets its power from plants that are not necessarily emission free, so it can be difficult to measure actual emissions from alternative vehicles. For example, in Iceland almost all electricity production is provided by renewable energy, therefore vehicle charging stations are powered by the grid that generates electricity from hydropower and geothermal power. On the other hand, in the United States, most of the electricity generated is from fossil fuels.

The production of alternative fuels grows every year, nevertheless, many challenges remain. Even if we solve the problem of lack of resources, there are still several open environmental issues.

Based on the pace of hybrid vehicle development in the world, it seems to be the most promising idea for the next generation of trucks. This next period will be a middle step in the move towards electricity as the main fuel source. The EU, the USA and Japan already are improving efficiency through engine downsizing. Low Emissions Zones (LEZ) are becoming more popular in cities throughout the developed world.

This is a defined area where access is restricted to improve air quality. Polluting trucks are not allowed to enter, therefore this is an additional incentive for logistics companies to use more dual-fuel engines to ensure that regular cargo deliveries will not be interrupted.

After we see hybrid trucks on the market we will be able to think about how to make the full electric system more efficient. The solution is to find a way of charging the battery during the trip, using already existing technologies such as solar panels or wireless roads that charge the vehicle while driving.

Our goal for the moment is to create optimization by using a variety of digital technologies to manage efficiently heavy duty vehicle fleets.