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Subcommittee on Energy, Natural Resources, and Infrastructure

Hearing on "Natural Gas Vehicles: Fueling American Jobs, Enhancing Energy Security, and Achieving Emissions Benefits"

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Chairman Bennet, Ranking Member Cornyn, and Members of the Subcommittee:

Thank you for the opportunity to testify on the importance of natural gas vehicles for UPS and the nation. Natural gas is revolutionizing trucking, especially heavy-duty trucking, for UPS and the rest of the industry, creating domestic jobs, enhancing our energy security, and providing for a cleaner environment. To appreciate just how important natural gas production is to UPS today requires some history.

Our company began in Seattle in 1907, over a century ago, as couriers of messages, not packages, couriers on foot with a few bicycles. We graduated to motorcycles, but six years elapsed before the company purchased its first truck, a Model-T Ford. As the telephone gradually displaced message couriers, the company reinvented itself and began delivering customers' packages for department stores. Over the next three quarters of a century, UPS acquired more and more trucks, eventually an aircraft fleet, and became ever more dependent on petroleum. This petroleum dependence brought two problems. The first was vulnerability to petroleum supply disruptions, higher oil prices, and especially to the volatility of those prices. Even today, we reflect this as a business risk in our financial reports, even while we enjoy relatively low oil prices today. We have seen

lower oil prices before, only to see them rise dramatically with higher world oil prices.

The second problem was that the proliferation of motor vehicles, among other sources, created air pollution, especially in urban areas. Remember that there were no significant emission controls on large trucks until 2007. Compared to diesel fuel, natural gas, actually compressed natural gas ("CNG") offered an inherently cleaner, domestically sourced fuel and at times natural gas was cheaper than petroleum. Beginning in the 1980's, UPS began testing medium-sized delivery trucks that operated on natural gas.

In short, UPS spent its first 80 years growing our dependence on petroleum, but the last 30 years trying to find alternative energy sources to use in our global fleet of vehicles and airplanes. Of course, we know that we will remain dependent on petroleum for many years to come. We currently have nearly 100,000 trucks worldwide, some 17,000 heavy tractor trailers in the U.S. alone, and about 60,000 package delivery trucks.

In these last 30 years, we tested in service several alternative fuels and advanced technologies in what we call our "rolling laboratory" seeking ways to reduce our use of petroleum and emissions. That included electricity, hybrids (both electric and hydraulic hybrids), propane, and of course natural gas. The chart included in my testimony of this "rolling laboratory" shows 3,631 alternative fuel/technology vehicles domestically and a total of 4,718 alternative fuel/technology vehicles worldwide. From just 2010 through 2014, UPS will have committed over $400 million on this alternative fuel fleet and its infrastructure in the U.S. and Canada. Since 2000 through 2013, these alternative fuel vehicles traveled more than 350 million miles, the average distance from Earth to Mars…. And back. By the end of 2017, we expect that fleet to have traveled a billion miles.

So with all these alternative fuel options available to UPS, why has natural gas become our key alternative fuel?

First, we quickly realized that the best candidate for conversion to alternative fuels was the large, over-the-road heavy truck, the tractor trailer. Although the 2.4 million heavy trucks on the road today account for only 1% of all vehicles on the road, they consume nearly 17% of the on-road transportation fuel.[1]

In our case, our big rigs travel an average of 450 miles per day and can consume 100 gallons per day, as compared to a package delivery vehicle that might burn only a tenth of that much diesel fuel per day. Alternative fuel vehicles nearly always cost more to purchase than conventional vehicles and so the more diesel

[1] [1] Stacy Davis, Susan Diegel, and Robert Boundy, *Transportation Energy Data Book*, Edition 32, ORNL-6989 (Oak Ridge, TN: Oak Ridge National Laboratory, July 2014), http://cta.ornl.gov/data/tedb33/Edition33_Full_Doc.pdf.

fuel you displace with the cheaper alternative fuel, the more savings there are to pay the higher upfront cost of that alternative fuel vehicle.

While there were several alternative fuels suitable for the small delivery trucks, for these big rigs, the semis, we had no alternative fuel to give us the range and power that diesel fuel provided us. Not electricity, not propane, not hybrids, not even CNG at first. However, around 2000, diesel engines became available that ran on cryogenically-cooled liquid natural gas (LNG) and a small amount of diesel fuel to ignite the combustion in the engine. This dual-fuel engine worked well. In fact, in 2002, UPS began in-service use of 11 of these LNG/diesel powered tractors, as a part of our "rolling laboratory" and has had a growing fleet of these LNG trucks ever since.

Unfortunately, the early switch to natural gas vehicles lost traction when domestic natural gas supply decreased and prices surged around 2005-2006. We and others lost confidence that natural gas would remain low enough in cost to become a viable alternative vehicle fuel. Since then, the enormous expansion in U.S. natural gas production and natural gas reserves has created new confidence that natural gas prices will remain attractive as compared to diesel prices for the foreseeable future. This and other factors led UPS to increasingly shift to natural gas as a fuel and justify paying the considerable extra cost of limited production natural gas vehicles. New engine designs coming on the market today permit the heavy trucks to run on CNG with tolerable performance reductions, as compared to LNG powered trucks. Natural gas in LNG or CNG form remains the only widespread commercial alternative to diesel for heavy trucks.

Today, natural gas in the U.S. is significantly less expensive than crude oil on an energy equivalent basis. Many cite specific per gallon equivalent cost figures for natural gas, but there is wide variation geographically and generalization is difficult. Yet consider that natural gas at $5 per MMBTU is equivalent to crude oil at $29 per barrel, well below oil's current market price. This actual price gap is much narrower, however, as it costs more to convert natural gas to a transportation fuel (CNG or LNG), there are additional specialized fueling

infrastructure costs, and finally the alternative fuel vehicles themselves are more expensive.

UPS is making significant investments and commitment to natural gas and would like to accelerate the shift to natural gas where the business case exists. We already have more than 1,000 CNG medium "package cars" operating on natural gas (CNG) and currently, we have 1,243 heavy tractors operating on LNG or CNG. In fact, in 2014, the only new tractors that UPS is purchasing for its domestic, small package delivery business will run on natural gas. This will in one year nearly double the number of our natural gas vehicles here in the U.S. By the end of this calendar year, UPS will have LNG fueling operations across 10 states serving one of the largest LNG truck fleets in the world.

To the extent that natural gas is used as a transportation fuel, it will create jobs in the domestic natural gas industry to satisfy demand from the transportation sector. Further, engine and truck manufacturers are investing in technology and manufacturing infrastructure to delivery alternative fuel vehicles.

The environment is also a big winner here. As I said before, natural gas burns cleaner than diesel or gasoline. EPA's emission requirements on trucks today make new diesel trucks burn very cleanly because each truck has very expensive on-board, emissions after-treatment equipment requiring considerable maintenance. We estimate that this equipment and its maintenance on a new heavy diesel truck can cost $30,000 per truck over its life. A truck burning natural gas alone needs much less of such equipment, if any.

Besides our commitment to invest in natural gas vehicles, UPS has sought for years to partner with federal and state governments for incentives for the vehicles themselves and the necessary fueling infrastructure. Generally, all our alternative fuel deployments have enjoyed such incentives and they often determine just where we decide to deploy.

Our biggest concern when investing in natural gas vehicles is the tax disincentives to our use of these vehicles, and ironically, the federal government is the biggest impediment. What will drive deeper penetration of natural gas vehicles into the

market is ultimately the price differential, including taxes, between petroleum fuels and natural gas fuels, especially between LNG and diesel fuel. We have to pay more to purchase an alternative fuel truck than we pay for a conventional diesel truck. That vehicle price differential for a class 8, 18-wheeler, has been as much as $100,000 per truck, although vehicle prices have come down recently to a price differential of roughly $65,000 per truck.

The question for every business contemplating shifting to alternative fuel vehicles is this. Will the savings in the price of the alternative fuel as compared to conventional fuels, be enough over time to offset the extra initial cost of the alternative fueled vehicle?

As this Subcommittee knows, the federal excise tax on both diesel fuel and LNG is 24.3 cents per gallon, which is taxation by volume. Yet, a gallon of LNG produces only 58 % of the energy produced from a gallon of diesel. In short, LNG is effectively taxed at 170% of the rate of diesel fuel on an energy equivalent basis. That works out to a 17 cent per equivalent gallon extra tax on LNG than diesel fuel. Because LNG is a substitute for diesel, both should be taxed at the same rate on an energy equivalent basis.

UPS knows from its experience with the actual average number of miles that our LNG powered trucks run per year (160,000 miles). We know how many gallons of LNG they use per year and the life expectancy of our LNG trucks. The result is that the extra 17 cents per equivalent gallon for LNG adds up over the life of the truck to more than the extra initial cost of an LNG truck over a conventional, new diesel truck. In short, the extra tax burden on LNG fuel is a bigger impediment to our buying LNG trucks than the extra initial cost of the LNG truck, over a conventional diesel truck. That is my primary message here today.

If the Congress wants to accelerate the adoption of LNG heavy trucks and their use of domestic natural gas, we must fix the LNG "glitch" in the tax code.

Consequently, UPS is pleased to support S. 1103, the LNG Excise Tax Equalization Act of 2013, which Chairman Bennet sponsored and Senator Burr of this Subcommittee co-sponsored.

In addition to correcting the LNG fuel tax, we need to remove other tax barriers that discourage investing in alternative fuel vehicles. As mentioned earlier, each natural gas powered alternative fuel vehicle costs significantly more than a conventional diesel truck. In addition to the investment risk, a 12% Federal Excise Tax for heavy duty trucks is applied to the total purchase price of the vehicle. This simply means that we are required to pay extra taxes for purchasing an alternative fuel vehicle. For example, 12% on the $70,000 incremental cost of a natural gas truck results in $8,400 in extra taxes when compared to a diesel powered truck. All for investing in a vehicle that uses a domestic fuel, creates jobs here in America, and makes for cleaner air.

Finally, we support the retroactive reinstatement and extension of the expired Alternative Fuel Excise Tax Credit and the Alternative Fuel Vehicle Refueling property tax credit to incent investment.

I thank the Subcommittee for permitting me to testify and would welcome any questions.