



# Low NGV conversion costs spark NGV growth in Argentina

► **By Beia Spiller,**  
Economist at the Environmental Defense Fund

**N**ATURAL GAS VEHICLES IN ARGENTINA ARE WIDELY ABUNDANT, WITH NATURAL GAS REFUELING STATIONS ALMOST AS COMMON AS GASOLINE AND DIESEL DISPENSARIES, AND MILLIONS OF INDIVIDUALS PARTAKING IN NGV CONVERSION – CONVERTING THEIR CONVENTIONAL VEHICLES INTO DUAL FUELED MACHINES.

## THE RISE OF NGV CONVERSION IN ARGENTINA

The adoption of NGVs in Argentina was brought about mostly by an artificially low natural gas price fixed by the government, causing a massive price differential between gasoline and natural gas prices.

This price differential combined with low NGV conversion prices of approximately \$1,000 resulted in average pay back periods for personal vehicle conversions of a few short months. Bi-fuel vehicles and taxis play an important role in NGV conversion. Though both CNG and gasoline prices have increased since natural gas became abundant, gasoline today is still about 4 times more expensive than natural gas at the pump. Given the even shorter payback periods for high mileage taxis, these drivers played an important role in generating demand. A key to this success story was the conversion technique of creating a bi-fuel vehicle, allowing the driver to effortlessly switch between natural gas and gasoline as needed. This helped taxi drivers adopt natural gas while there were still relatively few refueling stations. However, given high levels of concentrated demand and low-cost NGV conversions, refueling station investments in the cities occurred rapidly. Having this large mass of taxis located in a concentrated city demanding natural gas (as was the case in Buenos Aires and its suburbs) helped pave the way to wider adoption of NGVs by mid- and long-distance drivers, contributing to the expansion into smaller, and more rural, towns. Today, approximately 20% of all personal vehicles have either been converted or run exclusively on natural gas.

## WHAT LESSONS CAN BE LEARNED FROM ARGENTINA'S NGV CONVERSION SUCCESS STORY?

Given the expansion of shale gas and the relatively cheap natural gas that has emerged from it, one would expect to see a large uptick in conversions, refueling stations and new purchases of natural gas fueled vehicles. However, this has not occurred, and natural gas vehicle adoption in the U.S. is limited – less than 150,000 exist, or .05% of the entire country's vehicle fleet.

## Several factors have contributed to the lack of NGV conversion in the U.S.:

1) The fuel price differential is much lower – only about \$1. This implies that there is an expectation that natural gas prices will not remain low in the long run – as it becomes more popular and demand increases, the difference in price

between natural gas and gasoline will diminish, further reducing the long term benefits of switching. However, gasoline prices also increase in the long run and, as natural gas prices increase, investments in shale gas extraction will also grow; thus it is unlikely that the gasoline-natural gas price differential will flip.

2) NGV conversion costs are about ten times higher in the U.S. than in Argentina. Whether this is due to lower labor costs in Argentina or different regulation stringency, the fact of the matter is that it is extremely expensive to convert your vehicle or purchase a brand new NGV – either of these actions will be at least an \$8,000 investment. This implies that the payback period in the U.S. (given average driving, fuel prices, and fuel efficiencies) is approximately six years; about the same number of years Americans tend to keep their vehicles.

So for an average driver in the U.S., the net benefit of switching to natural gas is low and long term. Although the payback period could be less than half for a high mileage taxi driver, taxis have not widely adopted NGVs given the relatively few natural gas filling stations across the country and within cities.

## HOW TO SPUR NGV CONVERSION

The government could therefore help to spur NGV investment through implementing tax breaks and rebates targeted at cities and taxi drivers.

## TAX BREAKS FOR TAXI DRIVERS

For example, providing rebates for NGV conversions to reduce the payback period for a taxi to under a year could help to boost conversion rates in cities. Of course, this low payback period would be insufficient without

a large enough concentration of refueling stations throughout the city. While the government began providing tax credits for the installation of alternative fueling stations in 2005, they were largely unsuccessful. Currently, there are only about 600 fueling stations nationwide – less than 1% of all fueling stations – which is not nearly enough to allow for substantial uptake in natural gas vehicle ownership or NGV conversions. Had these stations instead been concentrated in a few major cities, then perhaps taxis would have been able to begin the conversion process, helping to break the chicken-egg cycle of low demand for NGVs and little supply of NGV fueling stations. Instead, these 600 stations are scattered throughout the country, decreasing the ease of refueling especially in large and crowded cities. Tax rebates in high density areas to create blue corridors:

Targeting the rebates to high density areas throughout the country would help to create concentrations of natural gas usage. While providing national natural gas corridors can help to improve the incentives for heavy duty natural gas usage, beginning with a base of highly concentrated local usage would make these corridors much more useful. This is especially true given the large size of the country and the fact that the majority of driving occurs within a state, county or city rather than across different states or regions. Providing blue corridors within a city or county jointly with reduced payback periods would provide taxi drivers the necessary incentive to make the switch. Once this occurs, easy access to more fueling stations and higher demand for NGVs will both help lower NGV conversion costs and facilitate refueling, thus leading the way to

greater adoption of NGVs by personal vehicle owners. Generating a nationwide hub-spoke system of refueling stations is a lofty goal – making it a reality requires first establishing strong hubs of concentrated natural gas vehicle usage. Taxis may just well be our ticket to a future of natural gas transportation usage!

Source: [bluecorridor.org](http://bluecorridor.org)



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