Gregory Dana

Hi. Good afternoon. It's a pleasure to be here. And I'm looking at these kanji keys on this funny laptop. I think I can figure this out.

I work for the Alliance. And this is a list of our members' logos. It's nine companies representing about 83 percent of the sales here in the United States.

Well, I'm going to talk today about what we're making in terms of the market today that are environmentally friendly. And I think we're actually there today with what we're building and putting on the road today before we can start talking about the more advanced vehicles.

I think a lot of people still think cars go down the road polluting. But that's sure not the case anymore. Now that you start a car up, that's where all your emissions come from. It's the cold start of the vehicle. Once the catalyst is warmed and working, you really don't get much of any emissions at all that can be measured as the car is running down the road. So that's a pretty important, I think, concept to realize nowadays, that we are building cars that are that clean just in conventional engines today.

A little bit about where we've come from the past. We are about 99 percent controlled today with Tier 2 vehicles, the 2004 and later vehicles for both evaporative

emissions and for the tailpipe criteria pollutant emissions. We think it's the most severe control program in the world. It's a pretty impressive achievement. And I don't think many of the member companies of the Alliance thought we'd get where we were today. But again, the revolution in electronics and computers really had a lot to do with all the achievements we've made.

And how have we gotten to where we have today? Of all the things we've done is we've learned to close a couple of the catalysts. The catalyst makers have figured out how to make the catalysts work better in the high temperature environment, right next to the engine. And that helps the catalyst light off faster and get those cold start emissions down much quicker.

We've increased the catalyst cell density, again, going to a thinner walled catalyst, that allows, again, a faster light-off time because it's a thinner ceramic wall. It allows more of the metal be plated on that mass area so that you get, again, a quicker light off, a quicker reduction of emissions.

Reducing sulfur in the fuel, which one of the things that two-two did, was a very important thing. It not only enables us to make these catalysts and the emission controls in the cars work better for a longer period of time. It also, for all the states and urban areas of the country results in a huge emission reduction almost immediately

because every car on the road today has a catalyst on it. It's started to be suddenly cleaner with low sulfur fuel. So it's a huge improvement in air quality, like turning on light switches, the low sulfur fuel comes into play.

What did EPA's two-two do? You've heard this before, I'll be very brief since you've already heard this a few times. Basically, it took down NOX emissions tremendously from where we are today. And it also requires all the light trucks, that means pickup trucks, SUVs, mini-vans and vans to meet the same standard as passenger cars, which, in the past, was never the case.

And again, it's driven by the fact that more and more cars are being sold. And more and more trucks are being sold and being used as passenger cars in this country. And one of the things it does in the federal system is we have to certify to a bunch of bins or standards. And the lowest bin in the federal standard is a zero emission vehicle bin. But the flexibility we like in the federal program is that it doesn't require sales to that zero emission bin. Sorry, Alan.

This is a graphical example of where we've come from the past. Again, 1967, when there weren't any controls on cars, essentially. And this is for hydrocarbon emissions. We are down to about 99 percent of control from these uncontrolled levels.

Pretty much the same thing for NOX, pre-controlled levels of NOX is getting down towards almost unmeasurable levels. Again, 99 percent clean for NOX. And those being the two primary precursors oft smog, those are the most important tailpipe) pollutants to control from motor vehicles.

Let me talk a bit about some of the more advanced vehicles on the road today. PZEVs, which is the term of art from California called “partial zero emission vehicles,” they are cars that are being built to an extremely stringent tailpipe emission standard, but, in addition to that, have to meet a zero evaporative emission standard. And we have to warrant that car for 150,000 miles.

So that’s pretty much the most stringent, if you will, conventional vehicle being made today. And PZEVs has certified already in California by various manufacturers.

Hybrid electric vehicles. These are examples of some that are already on the road and some that are soon to be on the road and different modes of hybrids. Again, hybrids as you’ve seen explained by some of the other speakers can be different levels of hybrid technology, if you will. Some are a series paralleled together. Some are just a series. Some are just parallel.

And again, those different systems have different cost premiums and create different amounts of, I guess, fuel savings as part of the hybrid system and how they work.

Advanced technology diesels: We think that's a very promising technology, assuming we can get the NOX problem from diesels controlled. Diesels are about 30 to 40 percent more efficient than a gasoline engine. And if anyone in this country still thinks of diesels as being those smoky, older, urban buses, they are wrong. The new diesels are free of smoke, free of odor, extremely powerful with good performance engines. But again, we have to get the NOX down to meet the new Tier Two standards in order to be able to continue to sell them over time.

There are even some people building internal combustion engine vehicles to hydrogen. And again, this might be a way to transition us over to the hydrogen economy that we need for the fuel cells. This isn't much different than taking an IC engine and plumbing it to run on compressed natural gas, which we've already down many times. Again, this is a way to get zero emissions, if you will, from a typical IC engine.

Fuel cell vehicles: Again, that one's out behind the curtain there, I think, ones that have been produced, all these are rather expensive vehicles, not something you and

I could go down to the dealership and buy today. They cost anywhere from, I think, about a .5 million to $1 million a piece. But the hope is to get the price down, obviously, before, we start selling them.

We don't think there's going to be a lot of commercialization of these vehicles, at least in the near term, because of the high cost and the future development that has to come to reduce that cost and make these more viable in the market place. Again, some of the other speakers have mentioned the problems with cold weather.

One of the by-products of a fuel cell is water. And you know water freezes at 32 degrees. That's not a good thing to have sitting in the fuel cell in the power panel when the temperature gets low.

The other significant issue for fuel cells is getting an infrastructure in place. And I think that may be even, in many ways a bigger problem because we can continue to define the car technology, but unless someone is willing to put in place this hydrogen fueling technology, which doesn't exist in this country today, we are not going to have zero-machine vehicles running on fuel cells.

What else can be done? We've been very supportive of federal tax credits that are in the energy bill, which didn't manage to pass last year. We think that's important. We think the states could also adopt some incentives.

These vehicles are a bit more expensive than a conventional vehicles. The advanced technology diesels, as well as the hybrids, have a cost premium to them. To the extent we can get some help in overcoming that premium in the early years of their sales, that will help spur the sale of those vehicles and get consumers more used to them.

We also think that more could be done with fuels. This document here is what we call the "Worldwide Fuel Charter." It's been developed by the major trade associations for automobiles across the world. While we've done a lot already on fuels, getting sulfur out was a big first step. We think more needs to be done in controlling other parameters of both gasoline and diesel to make them more viable.

One of the most important issues for diesel, for example, is the Cetane level of diesel in this country is very low, compared to what was in Europe. If we are going to have good-driving diesels in this country, you've got to get the Cetane level to feel low. So I think there is a lot of work that needs to be done in the fuel area. And you can find out more about our fuels activities on that Web site that we have all the fuels information on.

Well, let me finish this. The good news is I think we are making very environmentally friendly vehicles today. You can buy conventional gasoline fuel

vehicles that are meeting almost no emissions today. And that's a pretty amazing story, if you think about it. From the time we first started building, putting emission controls on cars, and if you remember anything about cars in the early '70s when they wouldn't run right because of the emission controls on the cars. And they wouldn't start well. And they wouldn't run good in cold weather. That's all changed.

Today, you can start a car on a very, very cold day. And just turn the key. And it just starts and idles. That's, again improvements in technology we've developed over the years. And it's something I think we can all be proud of, of what we've accomplished. But again, the drive is to get to zero. And as we go further down this road, I think that's where we're all aimed at this point, things like fuel cells are probably the ultimate goal, where you have pretty much zero emissions from the vehicle as you drive it down the road.

Thank you very much.