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“Building a Championship Team”

Good morning. It's a pleasure to be here in Traverse City.

I know we're all facing some tough times in the automotive industry, but based on the caliber of speakers here this week, I am optimistic that we can find innovative ways to turn things around.

In fact, my colleagues and I look at these challenges as opportunities to build sustainable success at GM, not just in a fast-expanding global marketplace, but here - at home, where GM was founded nearly 100 years ago.

As many speakers have noted this week, our industry's greatest opportunity for sustainable growth lies in the development of advanced propulsion alternatives that displace petroleum and reduce greenhouse gases.

In this regard, General Motors is taking a broad-based approach to producing the fuel-economy leader in every class of vehicle we introduce.

That means developing a full range of advanced propulsion alternatives that offer customers the opportunity to choose a technology that best suits their particular needs, without sacrificing the environmental benefits they want.

In simple terms this advertisement for our Chevrolet brand sums it up - making our advanced propulsion technology real - with vehicles that range from gas friendly to gas free.

This starts with improving internal combustion powertrains, and to intensify efforts to displace petroleum with biofuels such as ethanol and biodiesel.

And it extends to an initiative I am passionately committed to: the electrification of the automobile.

No, this is no longer science fiction.

This is fact and its realization is close at hand.

I'm talking about developing extensions of current propulsion systems through the use of hybrid, plug-in hybrid, fuel cell and electric vehicle technology.

And it means more than knocking off a handful of test vehicles to impress the media and analysts. This is about integrating advanced propulsion systems into high-volume, mainstream vehicles like the Saturn VUE and Chevy Volt.

To date, GM has five hybrid vehicles on the road and that will increase to 20 by 2012 and will include a plug-in version of our VUE hybrid.

The VUE Plug-In will feature an advanced lithium-ion battery and potentially twice the fuel economy of the current VUE.

Aside from hybrids and plug-in hybrids, GM is working very aggressively to bring electrically-driven vehicles like the Chevy Volt extended-range electric vehicle, or “E-REV” for short, to market.

The backbone to each of these technologies - from hybrids to EREVs - is one key enabling technology ... advanced automotive batteries! And it's the responsibility of my team of battery engineers to create and validate GM's overall battery strategy.

I'm a huge sports fan, so I equate my responsibility to that of an NBA coach building a team capable of making a run for the championship.

Like any great team, you need depth. While some teams can excel and, on occasion, attain championship status with one or two superstars, the great teams - like the Lakers, Celtics, Bulls - even the Pistons, despite their recent playoff woes - are rich in talent on the floor AND bench.

We believe that GM has assembled the best players from around the globe; players with experience, players with the ability to adapt in this fast-evolving industry and players with a singular desire to win!

We are building a roster of talented battery suppliers, engineers and even experts from academia from around the globe. These “players” collectively offer us the greatest opportunity to win in the automotive market place.

In fact, it is our opinion, that the company that can pull together a diverse yet cohesive team and harness the latest battery breakthroughs will have a distinct competitive advantage.

For example, consider lithium-ion chemistry. One of the most prevalent misconceptions is that all lithium-ion battery chemistries are alike. In fact, lithium-ion is a family of more than 25 chemistries and growing. Each variant of lithium-ion carries with it different safety, durability and performance characteristics. We sometimes refer to the chemistry as the “special sauce”...no two are the same, and they each have their own special flavor.

And while our understanding of the various lithium-ion chemistries continues to grow, our industry hasn't yet begun to fully understand how to best optimize its potential. For this reason it remains extremely important that our roster include several battery cell suppliers that offer differing cell chemistries such as those from A123Systems, LG Chem, Hitachi and Johnson Controls-Swift.

We also hold roster spots for companies with battery integration expertise like Continental Automotive, Compact Power and Cobasys. These companies integrate battery cells into battery modules and battery packs. Their strengths range from developing control systems hardware to manufacturing battery packs that meet vehicle specifications.

(Pause)

Our current roster of battery suppliers represents the core of our winning team today, but we must always keep an eye on building something that is sustainable. We're not about scoring a single win for the sake of good PR. We're passionate about being the industry leader in developing and integrating advanced battery technology into our future products. To put it another way, we aspire to be like those great basketball teams that win championships year, after year, after year.

Our supplier partners play a key role in this regard, but we must also look at the development of new talent and technologies. The contributions of universities around the globe, and especially right here in the state of Michigan have been invaluable.

Last year, on this very stage, Ann Marie Sastry of the University of Michigan spoke on the very important work being done at her battery lab in Ann Arbor. I've personally had the chance to see the progress her team is making. And while the work being done there is impressive, it's the battery engineering students she is training who could have the greatest impact on our industry.

Currently, we have 10 interns from UofM's program getting hands-on experience in our own battery lab in Warren, which is invaluable for two reasons. First, while we have great resources internally, it doesn't hurt to get the perspective of advance degree engineer students. Second, we have a great opportunity to mentor the future battery engineers of the world, and trust me, this is a field we anticipate will grow in demand and prominence in just a few short years.

(Pause)

Now, I have to admit, many people might not look at battery technology as the “hot” thing in engineering. In fact, who, in this room - other than me - really gets excited talking about batteries?

After all, the battery often is the subject of scorn by motorists, especially when trying to flag down someone to “jump” their vehicle.

And how many of us have grumbled about needing to buy extra batteries for flashlights or toys? The advent of rechargeable batteries lessened the complaints, but consumers still view the battery as a necessary evil.

From my perspective, the battery is the underpinning of a major transformation taking place in the automotive industry and particularly at GM.

The centerpiece of that effort is the Chevy Volt, which has captivated automotive and trade journalists for well over a year. Even consumers are getting excited about this cool looking car that defies that convention that to be fuel efficient you have to be bland.

Frankly, I'm just as excited about the Volt because it represents what some people have equated to a "moonshot" for GM and this industry.

Here's why:

The Chevy Volt was not conceived as some wild and crazy concept that would wow people and fade away. Based on our EV1 experience, we looked at how consumers use their current vehicles, the vast majority of which are internal combustion in nature.

We found that 78 percent of motorists drive 40 miles or less each day.

Using that as a bogey, we set out to build a team that will develop a battery capable of running a car for 40 miles before a traditional engine kicks in. And to top that, the engine needed to recharge the battery “on the go” so the driver could conceivably log more than 40 miles a day using battery power.

This is no small feat, but we are confident we can deliver a battery that will last the life of the vehicle - approximately 10 years or 150,000 miles. For any battery, that’s a long time, given the often rugged and hostile environment - heat, cold, moisture - that a vehicle is subjected to on a daily basis.

That’s where LG Chem, Compact Power, Inc. and A123Systems and Continental come into play. For the last nine months, we have been testing battery packs developed by GM and these suppliers. The results have been extremely positive and reinforce our belief that we are on the right path.

As currently planned, the first-generation battery will be 16 kWh and weigh nearly 400 pounds. Its T-shape will fit nicely into our global compact car architecture without impeding our designers' ability to create unique vehicle styles for different markets and tastes.

And unlike the EV1, which was a pure electric vehicle, one hindered by limited range, the Volt will be a practical electric vehicle.

Yes, the Volt will use a gasoline engine, but its only purpose is to generate electricity, which extends the driving range with no compromises in speed or performance and without range anxiety.

In effect, the Volt is defining a new category, one not reliant on limited-range electric motors or one requiring gasoline as the primary fuel in a hybrid system.

We call that category the extended-range electric vehicle, or E-REV. In the foreseeable future, no other technology will impact the industry as fundamentally as the extended-range electric vehicle.

Of course, bringing the Volt and similar products to market requires more than developing efficient batteries and stunning vehicles. As I said earlier, a championship team has many players, working together to win.

We're moving rapidly toward our goal to launch the Volt in 2010. But like any good team, we are keeping our eye on the future. Even today, as the pace of development of the Volt increases, we are working on the next generation battery technologies. Our goal is to drive down the material cost of the technology, making it more affordable for consumers.

So, contrary to the belief that GM “killed the electric car”, I can say with a great deal of certainty that GM is reinventing the electric car in ways many people never thought possible.

But this focus on the Volt does not mean we’re taking our eyes off other technologies and approaches. The Chevy Volt represents one of several options consumers will have when buying a car, truck or crossover. My team continues to push for advancements in the mild- and two-mode hybrid systems, as well as test hydrogen fuel cells in a fleet of 100 Chevy Equinox utilities.

In effect, we’re acting like a championship basketball team, deploying various game plans, rather than relying on a single approach to win the game. And we’re not just shooting - pardon the pun - to win a championship and rest on our laurels.

Forgive me for a little hubris in stating that I expect GM to be a dynasty in the area of battery technology. We're playing to win for the long term.

Yes, these are bold words, given the sentiment among some people that GM won't see another 100 years.

To paraphrase Mark Twain, "Rumors of our demise are greatly exaggerated."

Here's why:

- We are focused on building sustained success, not short-term results
- We are building a company that can compete successfully, globally
- In the fastest growing markets in the world, GM is expanding rapidly

The industry is in the midst of a revolution, and we are making the changes to compete and win in this new world

We have the resources, the plan and the products to win

Thank you and have a great day.