

Montana State Legislature

2011 Session

Exhibit 1

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Society Archives
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PLUGGING INTO THE FUTURE

The era of America's total reliance on oil for transportation is coming to an end. Consumer awareness of the energy issue is growing daily. Many Americans have already purchased hybrid vehicles, and many more are wondering, "WHAT'S NEXT?" General Motors has the answer: the Chevrolet Volt, an electric vehicle with extended range capability, powered by the Volttec electric propulsion system.



WHAT IS THE VOLT?

AN ELECTRIC VEHICLE WITH EXTENDED RANGE CAPABILITY.

The 2011 Chevrolet Volt is a four-passenger electric vehicle that uses battery electricity as its primary power source, and gasoline for extended range capability.

HERE'S HOW IT WORKS:

Advanced lithium-ion battery engineering is the key enabling technology for the Chevrolet Volt. Energy is stored onboard in a 16kWh, T-shaped lithium-ion battery pack. The battery pack powers the electric drive unit, which will give the car a typical electric range of 25-50 miles depending on terrain, driving technique, temperature and battery age. This is accomplished without compromising speed or acceleration in the process.

For longer trips, Volt's onboard range-extending engine is used to drive an electric generator. So, when the battery's energy has been depleted, gasoline is used to generate electricity to power the car for hundreds of additional miles. Unlike some electric cars, you never have to worry about being stranded just because you've run out of battery power.

Not a hybrid. It's better.

The Volt is propelled by electricity at all times and speeds.

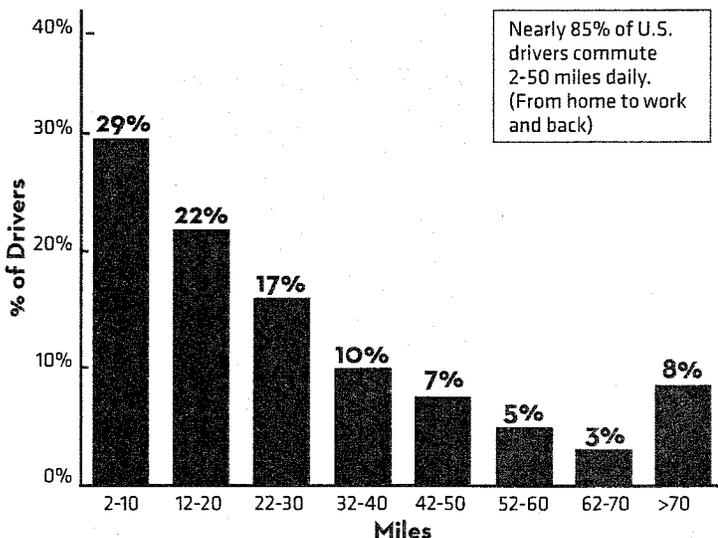
The Chevrolet Volt represents a significant departure from conventional hybrids. The Volt's wheels are always driven by electricity; whereas in conventional hybrids, the wheels are turned by an electric motor, gasoline engine or both.

The Chevrolet Volt offers a multitude of benefits, including energy diversification, reduced oil consumption and reduced tailpipe emissions. According to a survey by the U.S. Department of Transportation, on a typical work day, about 85% of U.S. drivers commute 50 miles or less from home to work and back.

When compared to a similarly sized vehicle that averages 30 mpg, GM estimates that driving a Chevrolet Volt has the potential to save hundreds of gallons of gasoline each year, based on a range of 25-50 miles of daily driving and 15,000 miles annually.

Currently, 96% of U.S. transportation is fueled by oil; more than half of that oil is imported. Policy makers and the public are increasingly aware that this dependence on oil is a threat to our national security. Oil dependence also poses a threat to our economic security, as price volatility and supply insecurity impact markets and consumers.

Average daily U.S. commute.



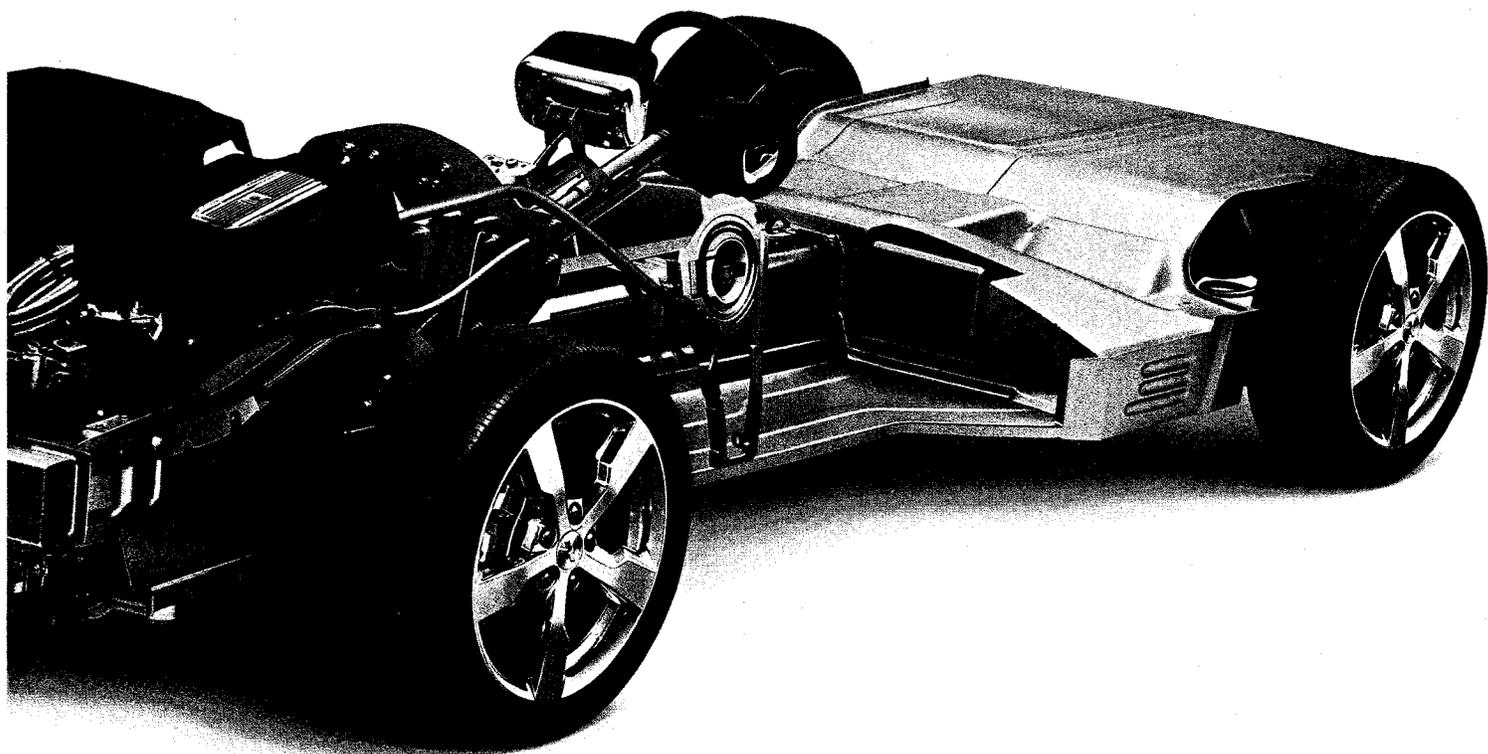
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A CLEANER, CHEAPER AND MORE SECURE SOURCE OF POWER.

Plug-in vehicles are also an important part of a strategy to address climate change. Displacing petroleum with electricity allows for an opportunity to reduce tailpipe emissions from the transportation sector. Depending on the fuel source for the grid, the use of grid power instead of petroleum can be a net benefit for the environment! As grid power becomes even cleaner over time, the greenhouse gas reduction and other air quality benefits of plug-in vehicles will be even greater.

Additionally, the cost of operating a plug-in vehicle, like the Volt, can be far less than a conventional gasoline-powered vehicle. Electricity is an extremely affordable way to power a car – the average American pays less than 12 cents per kWh. This means you could fully charge your vehicle for about \$1.50 per day. That's about the same annual cost as running a common household appliance. To save even more, some utility companies recommend charging overnight for off-peak rates and may even offer incentives to customers who do so.



{ Fast Facts }

- ⚡ When powered only from electricity stored in its 16kWh lithium-ion battery, the Chevrolet Volt has a typical all-electric range of 25-50 miles depending on terrain, driving technique, temperature and battery age. When this battery energy has been depleted, a gas-powered electric generator will seamlessly kick in to provide electricity and extend your range for hundreds of miles, until you can plug in again or refuel.
- ⚡ The average American pays roughly 12 cents per kWh for electricity. This means you could fully charge your vehicle for about \$1.50 per day.
- ⚡ The Chevrolet Volt is most likely to be charged off-peak in the evening or overnight when grid loads are lower, potentially further reducing the cost of recharging.
- ⚡ GM's initial launch phase, in late 2010 and early 2011, includes California, Michigan, New York, Texas, Washington, D.C., Connecticut and New Jersey. The Volt is planned to expand into all national markets within 12-18 months of launch.



WE CAN DO IT TOGETHER.

PUBLIC POLICY SUPPORT IS ESSENTIAL IF WE ARE TO IMPLEMENT THESE TECHNOLOGIES.

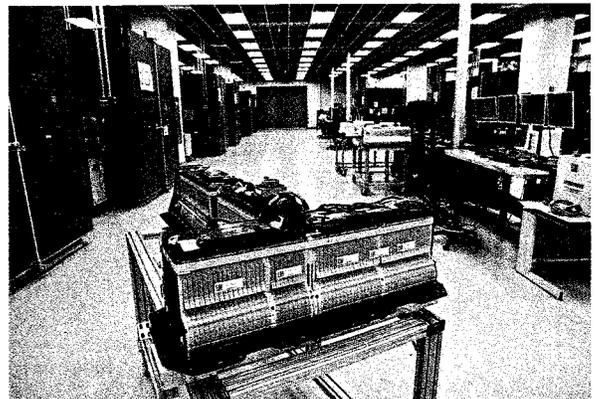
As with any new advanced technology, the initial costs to deploy early generations are quite high. Public policy support is essential to implement these technologies. Incentives will encourage many stakeholders and consumers to move forward. And as each new generation of the technology evolves, we will see a reduction in costs.

State and local policies should complement federal incentives and focus on reducing the overall costs to the consumer. Policies should also provide support to any necessary changes in infrastructure that promote the new technology. These incentives can reduce the costs for the consumer, or can be incentives for R&D and/or manufacturing that supports the development and deployment of the technology in a more cost-effective manner.

General Motors, the Electric Power Research Institute and leading members of the electric industry collaborated to commercialize plug-in electric vehicles.

Key objectives of this partnership:

- ⚡ Accelerate the use of electricity to displace gasoline.
- ⚡ Create affordable, yet desirable vehicles that take advantage of the electric grid.
- ⚡ Educate the public about electric vehicles.
- ⚡ Provide accessible, reliable, convenient, low-cost electricity.
- ⚡ Realize environmental benefits of the plug-in revolution.



{ State & Local Policies }

State and local governments can play a pivotal role in advanced technology vehicle deployment by supporting policies within the state that move consumers to try new technologies. These incentives can range from purchase incentives that build upon those available at the federal level to policies that change consumer behavior –

by providing a benefit to the consumer that has value with minimal monetary impact on the state. In addition, states can help enable the deployment of new technologies by supporting the infrastructure development needed to leverage the full capability of these new technologies.

The following are examples of key state policies that should be implemented prior to the widespread launch of plug-in vehicles:

1. Consumer Purchase Incentives

States are encouraged to implement plug-in vehicle consumer tax incentives in addition to federal consumer tax incentives.

⚡ States with an income tax may offer incentives structured similarly to the federal incentives or simply allow the federal credit to be carried over or in part to their state's income tax return. States with a sales tax may consider a full sales tax waiver or a state sales tax reduction for the purchase of new plug-in vehicles. Point-of-sale-type incentives offer very effective and immediate benefits to the consumer.

- ⚡ Emission Testing Exemption
- ⚡ License Tax/Registration Fee Exemption
- ⚡ Ad Valorem Tax Reduction

2. High Occupancy Vehicle (HOV) Lane Access

Gaining access to carpool lanes (without passengers) can be a significant advantage when consumers consider an advanced technology vehicle that has a higher sticker price than a conventional vehicle. Consumers will assign a value to this type of incentive that helps them overcome the increased cost associated with an advanced technology vehicle like a plug-in vehicle.

For the many states that currently offer this incentive, they report that HOV lane access has become a deciding purchase factor. In addition, making this access transferable when the vehicles are sold has helped boost the resale value of many of these eligible vehicles. By making future plug-in vehicles eligible, the early adopters of these vehicles would be rewarded by allowing them to bypass congested roadways and highways.

3. Free Public Parking

Supplementing HOV Lane access with “free parking” as defined as “a state or local government program to allow energy-efficient vehicles to park for free at city-operated meters and parking garages” would also provide consumers with additional value. These free parking programs are even more effective when accompanied by access to electricity (120V and/or 240V).

These types of programs can be implemented by utilizing special license plate designations for eligible vehicles for a defined time frame (e.g., five years).

4. Fleet Purchases

State governments buy tens of thousands of vehicles each year, and should leverage that volume to lead by example and support advanced technology vehicles – especially in the first few generations of the technology.

5. Residential Infrastructure Improvements

Residential infrastructure improvements will be an integral part of the equation and can be deployed much faster with government assistance. For example, homeowners, developers, builders and other supporting businesses could get tax credits for a portion of the costs associated with the equipment and installation of charging spots in carports, garages, driveways and parking lots in residential buildings. Expansion of publicly accessible recharging opportunities at places of work or other areas beyond the home should also be considered.

In addition, building codes at the local level should begin to be modified to include a requirement for a 240V circuit located at or near the location where a vehicle would be parked. For residential homes, this would be in a garage. In apartment-type complexes, charging station deployment should be considered in the design of the complex.

REAL INCENTIVES, REAL RESULTS.

THE VOLT GIVES MANY DRIVERS THE CHANCE TO COMMUTE GAS-FREE.

{ Regulatory Policy }

As federal, state, and local governments move forward on regulatory development programs, they should consider approaches that provide significant support and incentives to plug-in vehicles. These vehicles, such as the Chevrolet Volt, offer numerous benefits, including the reduction of greenhouse gases and petroleum dependence.

We would suggest integrating credit opportunities that incentivize plug-in vehicles and provide both manufacturers and energy providers (utilities) additional credits under the regulatory proposals (i.e., renewable portfolio standards, low carbon fuel standards, and

Cap and Trade proposals that are under consideration to help accelerate technology deployment).

Public utility commissions should also consider rules and regulations that impact rate structures (e.g., provide reduced rates for plug-in vehicle charging), behind-the-meter service (to enable utilities to work with customers to upgrade equipment), and rebates directly to consumers who purchase plug-in vehicles to incentivize the move from a petroleum-based transportation system toward an electrically driven one.



HERE ARE SOME FREQUENTLY ASKED QUESTIONS AND ANSWERS

Who will get the most benefit from driving the Volt?

Those who plug in frequently will experience the greatest gas savings and reduced tailpipe emissions. Per mile, electricity is less expensive to use than gas. So those who can plug in before or shortly after the electric charge runs out will get the maximum benefit out of Volt.

Will I always get the same amount of miles on an electric charge?

No. Like any electric vehicle, the Volt's electric miles per charge will vary. Like all vehicles, electric vehicles are less efficient in extremely hot or cold temperatures. In addition to outside temperatures, use of features like air conditioning and heat, personal driving style, additional cargo in the vehicle and the age of the battery will affect the electric range.

Is it easy to use?

Yes. While the Volt has been designed to be the most efficient when it's plugged in daily (like a typical electric vehicle), it will run efficiently without being plugged in for days, weeks or even months. With the Volt, you don't plug-in every day if it doesn't accommodate your schedule.

What happens if I never charge the battery?

The gasoline-powered generator will produce electricity to power the Volt. Just remember that you'll only get the full benefits of owning a Volt if you charge it routinely.

What happens if the battery is not fully charged?

You won't have to worry about having enough time to fully charge the Volt. A partially charged battery will work until it runs out, then the gas-powered electric generator will seamlessly kick in to provide electricity and extend your range for hundreds of miles until you can plug in again or you can refuel.

Why electricity?

Electricity runs cleaner than gasoline – that means zero tailpipe emissions. And if the electricity is generated using wind, hydro, solar or biofuels, there is the potential to significantly reduce the emissions associated with personal transportation. These advancements in electricity production along with reduction in emissions from electric-powered driving could help make our world a cleaner place.

Are there other advantages to electricity?

Since almost all of our electricity is produced domestically, it's a great way to reduce our dependence on foreign oil. The U.S. has a variety of electricity sources, all with the potential to help us become more energy-independent.

How long does the Volt take to charge?

About 10 hours with 120V. You can also install a 240V outlet, which can fully charge the Volt in as little as four hours.

Is a special outlet required to charge the Volt?

No, you can plug it into any standard 120V household outlet.

How much does the Volt cost to charge?

Electricity is an extremely affordable way to power a car – the average American pays less than 12 cents per kilowatt hour. This means you could fully charge your vehicle for about \$1.50 per day. To save even more, some utility companies recommend charging overnight for off-peak rates and may even offer incentives to customers who do so.

What happens if I need to travel further than my battery-only range will allow?

Once the initial electric charge is depleted, the range-extending gas engine will kick in to seamlessly generate enough energy to continue to power the Volt for hundreds of additional miles.

How much interior room does the Volt have?

The Volt will carry four adults comfortably. The hatchback design provides flexibility for larger cargo.

What kind of battery does the Volt use?

The Volt is powered by a lithium-ion battery pack. While there are many different kinds of lithium batteries (like the ones used in computers and cell phones), the Volt cells are specifically made for vehicles. The lithium-ion battery holds its charge efficiently and has no memory effect, which means you don't have to run it down completely before recharging.

What makes the Volt battery unique?

The Volt battery is designed for long life and reliability. Each battery pack is made up of more than 288 rectangular cells arranged in a series-parallel configuration. Computer systems monitor the battery cells to make sure everything is working correctly.

If you still have questions, please visit Chevrolet.com/volt.

