

Hybrid vehicles: the dark side essay



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Abstract In the past decennary, intercrossed electric vehicles (HEV) have been doing a large disturbance with the advanced, gas salvaging engineerings that accompany them. The semblance that HEVs are 100 per centum environmentally friendly in all facets besides follows the HEV moving ridge. Sadly the semblance frequently wins over unsuspecting clients the instant better gas milage is offered. This reappraisal on the environmental impact of the intercrossed electric vehicle observes the unobserved sides of the automotive " green motion.

" The piece compares how an ordinary gasoline vehicle (non-HEV) can accomplish gas milage that is merely every bit good, if non better, than the more expensive intercrossed option. This world cheque on the newest engineerings uproots what makers do non desire anyone to cognize or believe about when purchasing a vehicle including: environmental pollution of the intercrossed electric vehicle, non-HEV fuel economic system, the deficiency of pay-back from having an HEV, and how the HEV lacks the degree of versatility required for many American households. Hybrid Electric Vehicles The Dark Side.

Thesis: Hybrid Electric Vehicles should discontinue to be produced because of four chief issues: environmental pollution has non reduced, better fuel economic system can be achieved in non-hybrid vehicles, there is no payback in having a loanblend, and intercrossed vehicles do non possess the same versatility many American households need.

1. Environmental Pollution and the Hybrid Electric Vehicle A. Batteries contain Nickel, Lithium, and Lead
1. Mining these stuffs is risky, causes acid rain
2. Transporting these stuffs is dearly-won and [the transit vehicle] contributes to pollution

B.

Car accidents go on 3. Vehicular accidents go on all of the clip. HEV batteries are prone to damage and can leak harmful stuffs (acids) into the environment. 4. Recycling batteries is impossible right now. Where do the batteries travel? II. Non-HEV Fuel Economy C. European Diesels vs. HEV 5. For decades European automotive companies have been bring forthing Diesel powered autos accomplishing mpg in the 40-90 scope depending on the size of the vehicle 6. Americans have yet to follow this engineering due to disagreements in emanations controls and criterions. D. Alternative Fuel Technologies 7.

Hydrogen power is going more available to the consumers in larger metropoliss such as Los Angeles and New York City. 8. The engineering is still instead expensive. but if the authorities stopped blowing money on HEV development and started disbursement on the development of Hydrogen Power. our depending on foreign oil would decrease and we would hold a dependable. renewable. and ecologically sound energy III. HEVs Do Not Pay To Own E. Non-HEV vs. HEV 9. Most non-HEVs will be given to pay themselves off in a affair of old ages because they have little care costs and comparatively easy upkeep.

10. HEVs have many new characteristics that are expensive to maintain up in today's market. particularly with limited handiness to replacing parts. F. Maintenance 11. HEVs are filled with a overplus of new costs that can run out a billfold prohibitionist! Depending on how long an HEV is owned the proprietor must keep both the electric and gas motor along with the battery. 12. A battery costs upwards of an expensive \$ 2. 000. IV. HEVs and the Population G. Urban Population and HEV Use 13. Many Americans live in <https://assignbuster.com/hybrid-vehicles-the-dark-side-essay/>

engorged metropoliss where fuel ingestion is enormous and pollution is a major job. 14.

HEVs offer the convenience of closing off the gas motor while stopped and running merely the electric motor when in stop-and-go traffic. 15. More accidents go on in and around the metropolis ; it is more likely for a loanblend to be capable to accidents in the metropolis. H. Rural Population and HEV Use 16. Many people populating in little towns and small towns need four-wheel thrust vehicles that can take difficult labour. 17. Gas milage is indispensable to this population. 18. HEV applications in trucks and sport public-service corporation vehicles have failed to present gas milage immensely superior to that of non-HEVs. 19.

Blue collar workers need vehicles with musculus and power. HEVs do non offer that. Conclusion Hybrid Electric Vehicles The Dark Side The intercrossed electric vehicle (HEV) has become an highly popular pick for many Americans in the past decennary. Because it has become so popular. the HEV has lead to many new and rough environmental impacts on a planetary degree. Loanblends have been viewed as the reply to the United States' oil dependence. Supplying superior fuel economic system and lower emanations. a intercrossed auto was certain to be a hit among city-dwelling citizens ; nevertheless. the popularity of the HEV is get downing to look like a bad thing.

HEVs require a battery to power the electric motor. The batteries contain chemicals that can be released into the environment in the instance of an accident or disposal. This is a serious job that needs to be addressed. Hybrid

Electric Vehicles should discontinue to be produced because of four chief issues: environmental pollution has not reduced. better fuel economic system can be achieved in non-hybrid vehicles. there is no payback in having a loanblend. and intercrossed vehicles do not possess the same versatility many American households need. Environmental Pollution and the Hybrid Electric Vehicle.

Smog infested metropoliss have been seeking for an reply to pollution ; the intercrossed vehicle was the response or so it seemed. HEVs have been around long plenty to go forth both a positive and a negative impact on the environment. A loanblend was meant to cut down fuel ingestion and minimise harmful emanations and it does the occupation good ; nevertheless. the people who see a intercrossed as “ eco-friendly” do not see the polluting monster that hides behind the cloak. Hybrids require a overplus of different parts that normal autos do not typically necessitate. The full procedure requires a enormous sum of energy from other beginnings. such as Diesel power.

The procedure through which HEV batteries are made emits more drosss than an HEV will bring forth in its life-time. Not merely can HEVs bring forth pollution before they are made. but they can besides lend to pollution while driving down the route. If one of these vehicles were to acquire in a major accident. the harmful chemicals within the battery could leak into the land and contaminate H₂O supplies. The same thing happens when HEVs are sent to the bust uping pace. The batteries are not easy to recycle and there has yet to be an efficient and environmentally safe manner to dispose of the risky stuffs.

The intercrossed electric vehicle has started to fuel contention over the true environmental impact of such vehicles. Most batteries found in HEVs today consist of nickel metal hydride (NiMH) . or lithium ion (Li-Ion) ; two really toxic chemicals. Harmonizing to the United States Environmental Protection Agency (2011) . the most environmentally vulnerable constituent of a intercrossed vehicle is the battery. Disposing of the batteries is a major concern and makers have yet to show proper disposal instructions. The largest environmental job with batteries is the excavation and fabrication of the natural stuffs that go into them.

Many human and machine workers are needed to pull out the stuffs from the Earth. bring forthin huge sums pollution and damaging the wellness of the worlds in the mines (parity. 8) . HEVs have a long manner to travel before going the optimum eco-friendly vehicle ; Dr. Dominic Notter of Empa Technology and Society Laboratory (2010) writes that “ 15 per centum of the entire [environmental] load can be ascribed to the battery (including its industry. care and disposal) . ” (parity. 7) . Notter suggests that Li batteries are non as environmentally bad as they were foremost understood to be.

The Empa squad speculates that the biggest environmental impact by HEVs is the beginnings where the electricity is produced to bear down the batteries. The beginnings can be an mixture of atomic. coal-burning. and hydroelectric power making a to a great extent offset balance between the emanations of the beginning and the battery itself. In short. HEVs are indirectly responsible for the environmental impacts caused by the batteries (Niederost. 2010) . Non-HEV Fuel Economy Setting aside the jobs

associated with HEVs. Non-HEVs are plenty capable of accomplishing enormously better fuel economic system.

European Diesel engineering has come a great distance in the past 100 years. Many little Diesel autos are able to accomplish 70 to eighty stat miles per gallon with stock constellations, compared to standard gasoline which in most little autos merely achieves 30 stat miles per gallon. Thirty stat miles per gallon by U. S. criteria is reasonably good, but it can be better. Today there are big trucks that can accomplish 22 stat miles per gallon on Diesel fuel, yet smaller gas trucks will acquire merely 15 stat miles per gallon. The engineering to do Non-HEVs more fuel efficient is at that place; it merely needs to be utilized and executed. Part of the ground that the U.

S. has not used new Diesel engineering is because of the emissions criteria difference from Europe's current criteria, but there is no acceptable ground why the U. S. cannot put conveying smaller, cleaner Diesels to the market. Engineers have been bettering the efficiency of internal burning engines for over one hundred years. The article "Fuel Economy Today—Alt Fuels Tomorrow" (2010) suggests that "the male monarch of fluid energy efficiency is diesel fuel." (p. 3). Diesel fuel is a major driving force in the U. S. economic system by impelling about "1.3 million long draw semi trucks" on U. S. roads every twenty-four hours ("Aerodynamic", 2011, p. 2).

About every point on today's market is delivered by either Diesel firing semi truck or engine, which invariably raises demand for the most updated Diesel engineering as the U. S. economic system strives to travel green. On

another forefront. Diesel is going a popular option on smaller, lighter responsibility vehicles intending Diesel could be the following gasoline. This passage could take purchasers off from the intercrossed market as most little Diesels provide nice fuel economic system and in the long tally are a better trade. Harmonizing to “ Gasoline Panic 2011: Hybrid/Electric Vehicles Not the Answer” (2011) . Joe Wiesenfelder, senior editor of Cars. com, believes that, for economic intents, the purchase of an HEV because of fuel costs makes small sense.

“ Buying a [Nissan] Leaf or [Chevy] Volt now is no more logical – and likely less- due to market worlds. The new compacts like the Chevy Cruze, Ford Focus and Hyundai Elantra are a better pick in the long tally due to take down monetary value and respectable fuel economic system. ” asserts Wiesenfelder (parity. 6) . Non-HEVs may non be every bit efficient as a gas/electric loanblend, but the excess disbursements associated with HEVs are adequate to state that Non-HEVs are the most economically sensible pick when buying a new auto.

Alternative energy is another manner America can extinguish its dependance on foreign oil. One of the most popular developing fuels is H. Hydrogen is an highly efficient fuel that emits merely H₂O, while regular 87 octane gas is enormously inefficient and it emits toxicant gases. If the U. S. strongly invested in the development of H within the following century, the state could be to the full independent of foreign oil and fuel monetary values would be minimum. Today H vehicles are available for rental in some major metropoliss.

Presently the engineering is non rather ready for mass production as the system is non lasting plenty for mass production and the engineering is still excessively expensive to do any elephantine springs in advancement.

Politicss are the major issue behind the slow patterned advance of H fuel engineerings. Jonathan Gal (2009) noted that the ground why alternate energies are non being pushed for with every bit much exhilaration is because the thought is deserving one million millions of dollars and oil companies are taking advantage of the state of affairs and jacking up monetary values on oil-based merchandises.

Large companies know that one time alternate fuels become widely available to the populace the net incomes will instantly disintegrate (parity. 3) . Oil barons have been contending against the move for alternate fuels. which is apprehensible ; nevertheless. they do see the profitableness in suiting alternate fuels and are rapidly lift outing up companies that want to bring forth the new energies. Hydrogen is a great fuel for America to regenerate itself. In resistance to the usage of H as an alternate fuel. one might reason that it is far excessively explosive to utilize in a rider auto and is merely non safe ; the Hindenburg is a premier illustration of its dangerousness.

The Hindenburg was a German dirigible that was filled with H and coated with a powdery aluminium and Fe oxide pigment. The myth is that H was the chief cause of the Hindenburg calamity. Although H was a cardinal participant. it was the extremely reactive coating that ignited the fire to get down the H on fire. Of class there is more to that narrative. but it proves that H is merely every bit unsafe as the machines it is engineered into. HEVs Do

Not Pay to Own Over the last decennary it has been speculated that having an HEV will ne'er pay to have within the life-time of ownership.

The mean non-HEV will typically take five old ages to pay for itself.

Americans want a auto that will be utile. dependable. and will pay to have. Typical American households will run their autos for 10 to fifteen old ages before acquiring a new vehicle because with all other disbursals taken into history a new auto is the last disbursal a turning household demands to worry approximately. HEVs are packed with comparatively new engineeringings that are non easy and economically replaced. Replacement HEV parts are hard to happen and are ne'er cheap. A typical battery for a HEV can run up a measure of more than \$ 2. 000. Fleming. Privott. Taylor. and McDuffie (N. d.) have done research sing the life-time of a typical HEV battery. Granted many HEVs have non been around long plenty to necessitate replacing. the squad used a figure of 10 old ages to gauge the one-year cost of battery care and replacing. After run intoing with automotive traders to garner monetary values of replacing HEV batteries. the squad produced the monetary value of an HEV battery to be "...about \$ 2600. there would be an extra cost of about \$ 3400 for installing. " Compare this information with the cost of a Non-HEV battery monetary value of about \$ 30- \$ 40 and the monetary value differential becomes highly evident (p. 6) .

Expensive fixs make a vehicle improbably hard to pay off within the life-time of the ownership. Non-HEVs have been around long plenty to the point where paying for fixs is comparatively inexpensive and parts are easy to happen ; many constituents are interchangeable and can be installed by anybody. The

internal burning engine. harmonizing to Virginia Tech's Consortium on Energy Restructuring (2007) . has been the most preferable method of providing energy to major companies globally because the machines are easy to keep. familiar to all ages. and high dependableness (parity. 4) .

Although HEVs are advertised to be the new household vehicle. it is obvious there are many issues that need to be taken into history before the HEV will genuinely be a household and economically friendly vehicle. HEVs and the Population There are one million millions of people on this planet. but merely a few choice groups of the public truly necessitate or desire HEVs. Many of the people who live in to a great extent urbanised countries. such as Chicago. New York City. and Los Angeles are the lone populations who could profit from utilizing an HEV.

A convenience offered by an HEV is that it can close off the gas motor when stopped and run entirely on the electric motor to cut down the harmful emanations that all major metropoliss are prone to. The usage of the electric motor besides eliminates gas ingestion during stop-and-go traffic. which is when most pollution from exhaust accumulates. Cities are victim to a big figure of accidents every twelvemonth. From wing benders to pile-ups. all types of accidents are extremely likely in a metropolis scene.

HEVs are equipped with all of the latest safety engineerings. but what is most unsafe is the leaking and spreading of battery acid during an accident and afterword. non to advert loanblends are besides quieter than gas vehicles doing the hearing impaired walker more likely to stop up on the goon of an oncoming HEV. Joanne Silburner of NPR's Health Blog. suggests

that without the engine noise. blind people and people listening to music are the most likely to walk in forepart of an HEV without cognizing any better.

Silburner besides points out that the uneducated driver of an HEV might be a possible hazard to walkers as HEV engines shut off when the auto is non traveling ; taking to what could be a panic reaction from the driver (parity. 6-7) . In little towns and rural countries across the U. S. many households need fuel efficient. people-moving. and dependable vehicles that are easy to keep. HEVs do non do the cut when it comes to run intoing the demands of a rural-dwelling household. In rural countries. topographic points and locations are normally spaced widely apart and main roads or two lane roads connect them.

HEVs are known to acquire worse gas milage on the main road than in the metropolis. which is improbably unsympathetic to the long distance commuters. Automotive companies have tried to turn to these jobs with intercrossed trucks and sport public-service corporation vehicles ; nevertheless. the public presentation of the vehicles was excessively hapless to accomplish a enormous ascent in gas milage. The failure to bring forth an efficient intercrossed truck brought the automotive companies back to the pulling board. Today there are big Diesel trucks that can accomplish an impressive 22 stat mis per gallon while haling heavy tonss.

Harmonizing to U. S. Department of Energy (2011) . diesel vehicles meet the same emanations criterions and regular gas vehicles and the Diesels are “ more powerful and fuel efficient than similar sized gas engines (about 30-35 % more efficient) . ” (parity. 1) . With the engineerings available today

worlds can polish machines. like auto engines. to run at top efficiency and still bring forth huge sums of power to add both bang and public-service corporation to the thrust. Conclusion HEVs are popular ; it is improbable that the major car manufacturers of the universe will even see drawing HEVs from their batting order of vehicles.

The effects in the market place would be excessively big. Being eco-friendly is a major fringe benefit to most people ; companies need to suit their several client base. This adjustment restricts the companies from taking back their promises and supplying a true eco-friendly merchandise. Overlooked environmental pollution. non-HEV betterments. HEV cost of ownership and population demands are all reminders of how the eco-friendly revolution has blinded the general populace from what happens behind the “ green” screen.

It is up to the people to understand that HEVs are non the key to a bright hereafter. but are another obstructor to accomplishing the existent eco-vehicle. Mentions Aerodynamic additions cut down fuel ingestion of semi trucks by 7-12 % . (2011. February 16) . Retrieved March 16. 2011. from hypertext transfer protocol: //missionzero.

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Environmental Protection Agency. gov/R10/OWCM.

NSF/product+stewardship/autos-impacts # batteries.