Future Drive Electric Vehicles And Sustainable Transportation

Future Drive - Daniel Sperling 2013-02-22 In Future Drive, Daniel Sperling addresses the adverse energy and environmental consequences of increased travel, and analyses current initiatives to suggest strategies for creating a more environmentally benign system of transportation. Groundbreaking proposals are constructed around the idea of electric propulsion as the key to a sustainable transportation and energy system. Other essential elements include the ideas that: improving technology holds more promise than large-scale behavior modification technology initiatives must be matched with regulatory and policy initiatives government intervention should be flexible and incentive-based, and should also embrace selective technology-forcing measures more diversity and experimentation is needed with regard to vehicles and energy technologies Sperling evaluates past and current attempts to influence drivers and vehicle use, and articulates a clear and compelling vision of the future. He formulates a coherent and specific set of principles, strategies, and policies for redirecting the United States and other countries onto a new sustainable pathway.

Electric Vehicles and the Future of Energy Efficient Transportation - Subramanian, Umashankar 2021-04-16 The electric vehicle market has been gradually gaining prominence in the world due to the rise in pollution levels caused by traditional IC engine-based vehicles. The advantages of electric vehicles are multi-folded in terms of cost, energy efficiency, and environmental impact. The running and maintenance cost are considerably less than traditional models. The harmful exhaust emissions are reduced, besides the greenhouse gas emissions, when the electric vehicle is supplied from a renewable energy source. However, apart from some Western nations, many developing and underdeveloped countries have yet to take up this initiative. This lack of enthusiasm has been primarily attributed to the capital investment required for charging infrastructure and the slow transition of energy generation from the fossil fuels to the renewable energy format. Currently, there are very few charging stations, and the construction of the same needs to be ramped up to supplement the growth of electric vehicles. Grid integration issues, also crop up when the electric vehicle is used to either do supply addition to or draw power from the grid. These problems need to be fixed at all the levels to enhance the future of energy efficient transportation. Electric Vehicles and the Future of Energy Efficient Transportation explores the growth, policy makers, administrators, transportation, and environmental perspectives of electric vehicles. The chapters cover the benefits and limitations of electric vehicles, techno-economic feasibility of the technologies being developed, and the impact this has on society. Specific points of discussion include electric vehicle architecture, wireless power transfer, battery management, and renewable resources. This book is of interest for individuals in the automotive sector and allied industries, policymakers, practitioners, engineers, researchers, academicians, and students looking for updated information on the technology, economics, policy, and environmental aspects of electric vehicles.

The Future of Electric Vehicles - Taiwo Ayodele 2019-09-23 Do you want to switch to an electric vehicle?Did you know that electric cars were first developed in the 1830s?Do you want to save money and help protect the environment too? Have you heard about the incentives offered by the government to electric car buyers? This book provides an overview of electric vehicles (EVs) beginning with their invention and early development in the early 1900s and the early 1990s until the late 1990s and reasons why their production was put on hold until modern times. Next you will learn about the many current advances in electric vehicles and how their batteries and technology function, the best reasons to choose EVs, EV charging stations with the best apps, what smart charging is, types of EV batteries, autonomous vehicles, government incentives for EVs, cost of charging EVs, social impact of EVs, overall comparison between EV and internal combustion engine cars, understand the innovative technologies available for charging EVs, solar charging stations, and the future of EV. This helpful guide presents everything potential buyers need to know about electric vehicles, including cost strategies, government incentives, and strategies to use EVs more efficiently, such as charging at home and using EVs for daily commutes.

Driving the Future - Margo T. Oge 2016-09-20 Now in paperback, with a new foreword by Fred Krupp, an expert's illuminating preview of the public interest--toward our dream scenario of social equity, environmental sustainability, and urban livability. This book provides an overview of electric vehicles (EVs) beginning with their invention and early development in the early 1900s and the early 1990s until the late 1990s and reasons why their production was put on hold until modern times. Next you will learn about the many current advances in electric vehicles and how their batteries and technology function, the best reasons to choose EVs, EV charging stations with the best apps, what smart charging is, types of EV batteries, autonomous vehicles, government incentives for EVs, cost of charging EVs, social impact of EVs, overall comparison between EV and internal combustion engine cars, understand the innovative technologies available for charging EVs, solar charging stations, and the future of EV. This helpful guide presents everything potential buyers need to know about electric vehicles, including cost strategies, government incentives, and strategies to use EVs more efficiently, such as charging at home and using EVs for daily commutes.

The Electric Car - Mike H. Westbrook 2001 This book covers the development of electric cars -- from their early days to new hybrid models in production -- together with the very latest technological issues faced by automotive engineers working on electric cars, as well as the key business factors vital for the successful transfer of electric cars into the mass market. Considerable work has gone into electric car and battery development in the last ten years with the prospect of substantial improvements in range and performance in battery cars as well as in hybrids and those using fuel cells. This book comprehensively covers this important subject and will be of particular interest to engineers and managers working in the automotive and transport sectors and allied industries, policymakers, practitioners, engineers, researchers, academicians, and students looking for updated information on the technology, economics, policy, and environmental aspects of electric vehicles.

Three Revolutions - Stephan Rinderknecht 2020-12-17 Among the various factors greatly influencing the development process of future powertrain technologies, the trends in climate change and digitalization are of huge public interest. To handle these trends, new disruptive technologies are integrated into the development process. They open up space for diverse research which is distributed over the entire vehicle design process. This book contains recent research articles which incorporate results for selecting and designing powertrain topology in consideration of the vehicle operating strategy as well as results for handling the reliability of new powertrain components. The field of investigation spans from the identification of ecologically optimising transformation of the existent vehicle fleet to the development of machine learning-based operating strategies and the comparison of complex hybrid electric vehicle topologies to reduce CO2 emissions.

Overcoming Barriers to Deployment of Plug-in Electric Vehicles - National Research Council 2015-06-26 In the past few years, interest in plug-in electric vehicles (PEVs) has grown. Advances in battery and other technologies, as well as new federal standards for carbon-dioxide emissions and fuel economy, state zero-emission-vehicle requirements, and the current administration's goal of putting millions of alternative-fuel vehicles on the road have all highlighted PEVs as a transportation alternative. Consumers are also beginning to embrace selective technology-forcing measures more diversity and experimentation is needed with regard to vehicles and energy technologies Sperling evaluates past and current attempts to influence drivers and vehicle use, and articulates a clear and compelling vision of the future. He formulates a coherent and specific set of principles, strategies, and policies for redirecting the United States and other countries onto a new sustainable pathway.

Future Powertrain Technologies - Stéphane Rinderknecht 2020-12-17 Among the various factors greatly influencing the development process of future powertrain technologies, the trends in climate change and digitalization are of huge public interest. To handle these trends, new disruptive technologies are integrated into the development process. They open up space for diverse research which is distributed over the entire vehicle design process. This book contains recent research articles which incorporate results for selecting and designing powertrain topology in consideration of the vehicle operating strategy as well as results for handling the reliability of new powertrain components. The field of investigation spans from the identification of ecologically optimising transformation of the existent vehicle fleet to the development of machine learning-based operating strategies and the comparison of complex hybrid electric vehicle topologies to reduce CO2 emissions.

Overcoming Barriers to Deployment of Plug-in Electric Vehicles - National Research Council 2015-06-26 In the past few years, interest in plug-in electric vehicles (PEVs) has grown. Advances in battery and other technologies, as well as new federal standards for carbon-dioxide emissions and fuel economy, state zero-emission-vehicle requirements, and the current administration's goal of putting millions of alternative-fuel vehicles on the road have all highlighted PEVs as a transportation alternative. Consumers are also beginning to embrace selective technology-forcing measures more diversity and experimentation is needed with regard to vehicles and energy technologies Sperling evaluates past and current attempts to influence drivers and vehicle use, and articulates a clear and compelling vision of the future. He formulates a coherent and specific set of principles, strategies, and policies for redirecting the United States and other countries onto a new sustainable pathway.

Future Powertrain Technologies - Stéphane Rinderknecht 2020-12-17 Among the various factors greatly influencing the development process of future powertrain technologies, the trends in climate change and digitalization are of huge public interest. To handle these trends, new disruptive technologies are integrated into the development process. They open up space for diverse research which is distributed over the entire vehicle design process. This book contains recent research articles which incorporate results for selecting and designing powertrain topology in consideration of the vehicle operating strategy as well as results for handling the reliability of new powertrain components. The field of investigation spans from the identification of ecologically optimising transformation of the existent vehicle fleet to the development of machine learning-based operating strategies and the comparison of complex hybrid electric vehicle topologies to reduce CO2 emissions.
recommendations to spur the industry and increase the attractiveness of this promising technology for consumers. Through consideration of consumer behaviors, tax incentives, business models, incentive programs, and infrastructure needs, this book studies the state of the industry and makes recommendations to further its development and acceptance.

Automaton for Productivity-1968

Electric Vehicles: Prospects and Challenges- Tarig Moneer 2017-07-11 Electric Vehicles: Prospects and Challenges looks at recent design methodologies and technological advancements in electric vehicles and the integration of electric vehicles in the smart grid environment, comprehensively covering the fundamentals, theory and design, recent developments, technological issues involved with electric vehicles. Considering the prospects, challenges and policy status of specific regions and vehicle deployment, the global case study references make this book useful for academics and researchers in all systems of electric transport areas. Presents a systematic and integrated reference on the essentials of theory and design of electric vehicle technologies Provides a comprehensive look at the research and development involved in the use of electric vehicle technologies Includes global case studies from leading EV regions, including Nordic and European countries China and India

Automotive Systems and Software Engineering- Yanja Dajuven 2019-07-17 This book presents the state of the art, challenges and future trends in automotive software engineering. The amount of automotive software has grown from just a few lines of code in the 1970s to millions of lines in today's cars. And this trend seems destined to continue in the years to come, considering all the innovations in electric/hybrid, autonomous, and connected cars. Yet there are also concerns related to onboard software, such as security, robustness, and trust. This book covers all essential aspects of the field. After a general introduction to the topic, it addresses automotive software development, automotive software reuse, E/VS architectures and safety, C-ITS and security, and future trends. The specific topics discussed include requirements engineering for embedded software systems, tools and methods used in the automotive industry, software product lines, architectural frameworks, various related ISO standards, functional safety and safety cases, cooperative intelligent transportation systems, autonomous vehicles, and security and privacy issues. The intended audience includes researchers from academia who want to learn what the fundamental challenges are and how they are being tackled in the industry, and practitioners looking for cutting-edge academic findings. Although the book is not written as a lecture notes, it can also be used in advanced master's-level courses on software and system engineering. The book also includes a number of case studies that can be used for student projects.

Advanced Electric Drive Vehicles- Ali Emadi 2014-10-24 Electrification is an evolving paradigm shift in the transportation industry toward more efficient, higher performance, safer, smarter, and more reliable vehicles. There is in fact a clear trend to move from internal combustion engines (ICEs) to more integrated electrified powertrains. Providing a detailed overview of this growing area, Advanced Electric Drive Vehicles begins with an introduction to the fundamentals, an explanation of the need for electrification, and a presentation of the fundamentals of conventional vehicles and ICEs. It then proceeds to address the major components of electrified vehicles—i.e., power electronic converters, electric machines, electric motor controllers, and energy storage systems. This comprehensive work: Covers more electric vehicles (MEVs), hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), range-extended electric vehicles (REEVs), and all-electric vehicles (EVs) including battery electric vehicles (BEVs) and fuel cell vehicles (FCVs) Describes the electrification technologies applied to nonpropulsion loads, such as power steering and air-conditioning systems Discusses hybrid battery/ultra-capacitor energy storage systems, as well as 48-V electrification and belt-driven starter generator systems Considers vehicle-to-grid (V2G) interface and electrical infrastructure issues, energy management, and optimization in advanced electric drive vehicles Contains numerous illustrations, practical examples, case studies, and challenging questions and problems throughout to ensure a solid understanding of key concepts and applications Advanced Electric Drive Vehicles makes an ideal textbook for senior-level undergraduate or graduate engineering courses and a user-friendly reference for researchers, engineers, managers, and other professionals interested in transportation electrification.

Environmental Impacts of Road Vehicles-R M Harrison 2017-06-16 The first concerns that come to mind in relation to pollution from road vehicles are direct emissions of carbon dioxide and toxic air pollutants. These are, of course, important but the impacts of road traffic are altogether more substantial. This volume of the Issues in Environmental Science and Technology Series takes a broader view of the effects on the environment and human health, excluding only injury due to road traffic accidents. By looking across the environmental media, air, water and soil, and taking account also of noise pollution, the volume addresses far more than the conventional atmospheric issues. More importantly, however, it examines present and future vehicle technologies, the implications of more extensive use of batteries in electric vehicles and the consequences of recycling vehicles at the end of use. Finally, examples of life-cycle analysis as applied to road vehicles are reviewed. This book is a comprehensive source of authoritative information for students studying pollution, and for policy-makers concerned with vehicle emissions and road traffic impacts more generally.

The Great Race-Levi Tillemann 2016-01-19 The Great Race recounts the exciting story of a century-long battle among automakers for market share, profit, and technological dominance—and the thrilling race to build the car of the future. The world’s greatest manufacturing juggernaut—the $3 trillion automotive industry—is in the throes of a revolution. Its future will include cars Henry Ford and Karl Benz could scarcely imagine. They will drive themselves, won’t consume oil, and will come in radical shapes and sizes. But the path to that future is fraught. The top contenders are two traditional manufacturing giants, the US and Japan, and a newcomer, China. Team America has a powerful and little-known weapon in its arsenal: a small group of technology whizzes and regulators from California. The story of why and how these men and women could shape the future—how you move, how you work, how you live on Earth—is an unexpected tale filled with unforgettable characters: a scorned chemistry professor, a South African visionary who went for broke, an ambitious Chinese ex-pat, a quixotic Japanese nuclear engineer, and a string of billion-dollar wagers by governing corporate titans. For the race is no longer a straightforward competition among automakers, auto makers, venture capitalists, environmentalists, and private inventors—it’s everyone. The Great Race... Mr. Tillemann seems ideally cast to guide us through the big ideas porceling in the world’s far-flung workshops and labs” (The Wall Street Journal). His account is incisive and riveting, explaining how America bounced back in this global contest and what it will take to command the industrial future.

Intelligent and Efficient Transport Systems-Truong Quang Dinh 2020-04-01 The aim of this book is to present a number of digital and technology solutions to real-world problems across transportation sectors and infrastructures. Nine chapters have been well prepared and organized with the core topics as follows: A guideline to evaluate the energy efficiency of a vehicle -A guideline to design and evaluate an electric propulsion system -Potential opportunities for intelligent transportation systems and smart cities -The importance of system control and energy-power management in transportation systems and infrastructures -Bespoke modeling tools and real-time simulation platforms for transportation system development This book will be useful to a wide range of audiences: university staff and students, engineers, and business people working in relevant fields.

Advances in Battery Technologies for Electric Vehicles-Bruno Scrosati 2015-05-25 Advances in Battery Technologies for Electric Vehicles provides an in-depth look into the research being conducted on the development of more efficient batteries capable of long distance travel. The text contains an introductory section on the market for battery and hybrid electric vehicles, then thoroughly presents the latest on lithium-ion battery technology. Readers will find sections on battery pack design and management, a discussion of the infrastructure required for the deployment of a battery powered transportation network, and coverage of the issues involved with end-of-life management for these types of Batteries. Provides an in-depth look into new research on the development of more efficient, long distance travel batteries Contains an introductory section on the market for battery and hybrid electric vehicles Discusses battery pack design and management and the issues involved with end-of-life management for these types of batteries

An Optimization Study on PEFC Drive Electric Vehicle- 1996 Efforts have been made to develop fuel cell powered EVs (electric vehicles) in several countries and to demonstrate its high potential. Since 1990 fuel cell research has been conducted at FUT (the Fukui University of Technology) beginning with FAPC. Research effort is now being focused upon the application of fuel cells to the EV drive as this technology shows great future potential, particularly in the area concerning environmental protection. PEFC (Polymer Electrolyte Fuel Cell) has been chosen as the fuel cell for the EV power source because it possesses an inherent high power density and it also has another important feature; operation can be started under ambient temperature without preheating. The principal objective of this research is to pursue the optimum system of a PEFC drive EV. The size of the prototype vehicle in the university project is limited to a certain range and the capacity of the PEFC stack is also limited, for the time being anyway, as the PEFC technology is still under developmental stage in Japan. A 1.5 kW class PEFC stack has become available for the research at FUT by courtesy of a PEFC developer.

Transitions to Alternative Vehicles and Fuels-National Research Council 2013-04-14 For a century, almost all light-duty vehicles (LDVs) have been powered by internal combustion engines operating on petroleum fuels. Energy security concerns about petroleum imports and the effect of greenhouse gas (GHG) emissions on global climate are driving interest in alternatives. Transitions to Alternative Vehicles and Fuels assesses the potential for reducing petroleum consumption and GHG emissions by 80 percent across the U.S. LDV fleet by 2050, relative to 2005. This report examines the current capability and estimated future performance and costs for each vehicle type and non-petroleum-based fuel technology as options that could significantly contribute to these goals. By analyzing scenarios that combine various fuel and vehicle pathways, the report also identifies barriers to implementation of these technologies and suggests policies to achieve the desired reductions. Several scenarios are promising, but strong, and effective policies such as research and development, subsidies, energy taxes, or regulations will be necessary to
Transitions to Alternative Transportation Technologies—Plug-in Hybrid Electric Vehicles

The nation has compelling reasons to reduce its consumption of oil and emissions of carbon dioxide. Plug-in hybrid electric vehicles (PHEVs) promise to contribute to both goals by allowing some miles to be driven on electricity drawn from the grid, with an internal combustion engine that kicks in when the batteries are discharged. However, while battery technology has made great strides in recent years, batteries are still very expensive. Transitions to Alternative Transportation Technologies—Plug in Hybrid Electric Vehicles builds on a 2008 National Research Council report on hydrogen fuel cell vehicles. The present volume reviews the current and projected technology status of PHEVs, considers the factors that will affect how rapidly PHEVs could enter the marketplace, including the electric transmission and distribution system; determines a maximum practical penetration rate for PHEVs consistent with the time frame and factors considered in the 2008 Hydrogen report; and incorporates PHEVs into the models used in the hydrogen study to estimate the costs and impacts on petroleum consumption and carbon dioxide emissions.

The resurgence of the electric car in modern life is a tale of adventurers, men and women who kicked the complete dominance of the fossil fueled car to seek something cleaner, simpler and cheaper. Award-winning former Wall Street Journal reporter John Faika documents the early days of the electric car, from the M.I.T. Fuelcell race between prototypes in the summer of 1968 to the 1987 victory of the Sunraycer in the world’s first racing solar powered cars. Thirty years later, the electric has captured the imagination and pocketbooks of American consumers. Organizations like the U.S. Department of Energy and the state of California, along with companies from the old-guard of General Motors and Toyota as well as upstart young players like Tesla Motors and Elin Musk have embraced the once-extinct technology. The electric car has steadily gained traction in the U.S. and around the world. We are watching the start of a trillion dollar, worldwide race to who will dominate one of the biggest commercial upheavals of the 21st century. Drawing from the last decade of his 26-year career at the Wall Street Journal, where he covered energy and environmental matters, ClimateWire founder and industry insider John Faika brings to life this thrilling and important story about America’s rejection and second obsession with the electric car.

Jolt! James Billmaier 2010 The author explains why he believes the electric vehicle is going to rise to the top of the personal automobile market, discusses the benefits of electric cars, and considers the possible role of the electric vehicle in the transformation of the United States from an oil-based to an electric-powered economy.

Implications of Future Large-scale Use of Electric Vehicles in Europe R.M. Dell 1980

Battery Management System for Future Electric Vehicles Dirk Söffker 2022-11-9 The future of electric vehicles relies nearly entirely on the design, monitoring, and control of the vehicle battery and its associated systems. Along with an initial optimal design of the cell/pack/level structure, the runtime performance of the battery needs to be continuously monitored and optimized for a safe and reliable operation and prolonged life. Improved charging techniques need to be developed to protect and preserve the battery. The scope of this Special Issue is to address all the above issues by promoting innovative design concepts, modeling and state estimation techniques, charging/discharging management, and hybridization with other storage components.

The New Map Daniel Yergin 2021-09-14 A Wall Street Journal bestseller and a USA Today Best Book of 2020! Named Energy Writer of the Year for The New Map by the American Energy Society Pulitzer Prize-winning author and global energy expert, Daniel Yergin offers a revelatory new account of how energy revolutions, climate change, and geopolitics are mapping our future. The world is being shaken by a confluence of events in which the impact of all three will be felt at once. Out of this tumult is emerging a new map of energy and geopolitics:

V2G-101 Leonard J. Beck 2009-01-1 V2G-101 is a text that explains how electric drive cars can interact with the electric grid to improve reliability and earn an income. It answers many commonly asked questions about electric vehicles (EVs) including, Are they cleaner than gas-powered cars? How do they make money? Are they less expensive to operate? How can the government help along this new technology? What is a HEV, PHEV and NEV? The text includes detailed examples and calculations, related news articles, chapter summaries and review questions, and a 135-car appendix of electric cars past, present and coming in the future.
Automotive and Fuel Technologies

Robert Price 1984 “The work reported here is an element of the CEC’s Biennial Report effort in the transportation energy area...” This report describes probable developments in both existing and future automotive technologies, including engines, drive trains, electric vehicles, non-petroleum fuels, and engineered combinations. It is one of three reports developed concurrently by CEC staff to support analysis of California transportation energy demand.” p. vii.

Renewing Our Energy Future

United States Government Printing Office 1995

iHorizon-Enabled Energy Management for Electrified Vehicles

Clara Marina Martinez 2018-09-28 iHorizon-Enabled Energy Management for Electrified Vehicles proposes a realistic solution that assumes only scarce information is available prior to the start of a journey and that limited computational capability can be allocated for energy management. This type of framework exploits the available resources and closely emulates optimal results that are generated with an offline global optimal algorithm. In addition, the authors consider the present and future of the automotive industry and the move towards increasing levels of automation. Driver vehicle-infrastructure is integrated to address the high level of interdependence of hybrid powertrains and to comply with connected vehicle infrastructure. This book targets upper-division undergraduate students and graduate students interested in control applied to the automotive sector, including electrified powertrains, ADAS features, and vehicle automation. Addresses the level of integration of electrified powertrains Presents the state-of-the-art of electrified vehicle energy control

Development and Integration of Microgrids

Wenping Cao 2017-08-16 The utilization of AC or DC microgrids across the world has increased dramatically over the years and has led to development opportunities as well as technical challenges when they are connected to the main grids or used as stand-alone systems. This book overviews the development of AC/DC microgrids, explains the microgrid concepts, design and control considerations, discusses operational and technical issues, as well as interconnection and integration of these systems. This book is served as a reference for a general audience of researchers, academics, PhD students and practitioners in the field of power engineering.

Development and Integration of Microgrids

Wenping Cao 2017-08-16 The utilization of AC or DC microgrids across the world has increased dramatically over the years and has led to development opportunities as well as technical challenges when they are connected to the main grids or used as stand-alone systems. This book overviews the development of AC/DC microgrids, explains the microgrid concepts, design and control considerations, discusses operational and technical issues, as well as interconnection and integration of these systems. This book is served as a reference for a general audience of researchers, academics, PhD students and practitioners in the field of power engineering.


Dr Harrison Sachs 2020-02-07 This essay sheds light on why why electric cars do not warrant the investment and also elucidates the problems with buying an electric vehicle. Moreover, the criteria for how to determine if a car is worth the investment is delineated in this essay. Furthermore, how to earn substantial money online so that you can afford to finance your electric vehicle purchase is expounded upon in this essay. In spite of their touted merits, electric cars unequivocally do not warrant the investment. Even though electric cars operate more efficiently than gasoline powered vehicles and can therefore save you money on fuel costs and vehicle maintenance services, these vehicle running costs savings resorted over the course of many years will not be substantial enough to even offset 50% of the exorbitant premium paid upfront to procure the electric vehicle over a gasoline powered vehicle. Electric vehicles tend to rapidly depreciate in value and are therefore not a prudent investment in your future. Moreover, changing times for an electric vehicle are long, electricity prices are on the rise, the lithium-ion battery in electric vehicles is deemed a potential fire hazard, and there is a lack of electric vehicle service centers which ultimately means that there are an abject lack of technicians who are competent in servicing electrical vehicles. Even though the cost of operating an electric vehicle if you already paid for it in full would be roughly one third of the cost of operating a gasoline powered vehicle, these savings resorted over time on vehicle running costs, such as vehicle maintenance costs and fuel costs, do not offset the premium of $20,000-$50,000 exhausted upfront to procure an electric vehicle over a gasoline powered vehicle. “The average cost of an electric vehicle is $45,000 while the average cost of a gasoline powered car is $35,000.” Even though the engine of an electric vehicle has less moving parts, such as fan belts and spark plugs, which saves you money on maintenance and service costs every year, the average yearly savings in maintenance for an electric vehicle owner is only approximately $800 a year.” (“Electric Cars VS,” 2019) even though you may have to pay a premium of at least $20,000 upfront to procure an electric vehicle over a gasoline powered vehicle. As per operating costs to drive the vehicle, “the breakdown for a gas-powered car VS an electric car comes out to be $9.83 per 100 miles for a gas car and $5.27 per 100 miles for an electric vehicle. When directly compared, the cost to power an electric vehicle is about half of what it costs to fuel your gas-powered car. It is important to note that pricing for power varies depending on your utility company and how they charge for power. For example, some utility companies charge higher Time-Of-Use (TOU) rates for things like ‘peak hour usage,’ where the price of power is higher between 4 pm and 9 pm” (“Electric Cars VS,” 2019). While this may seem enticing to be able to save money on gas, you will not drive your electric vehicle enough to defray the $20,000 premium paid to procure it over a gasoline powered vehicle by saving on fuel costs and vehicle maintenance costs. Much to the chagrin of electric vehicle owners, electric vehicles are not the most economical vehicles to own. “Owning and operating a new vehicle in 2017 cost a driver an average of $8,408 annually, or $706 each month, according to a new study from AAA. The annual evaluation of driving costs reveals that small sedans are the least expensive vehicles to drive at $6,354 annually, followed by small SUVs at $7,606 annually, and hybrids at $7,687 annually. New to the Your Driving Costs study in 2017, AAA found that electric vehicles have driving costs at $4,839 per year. Without a gasoline engine to maintain, electric vehicles have the lowest annual maintenance and repair costs, at $982 per year.” (“Costs To Own,” 2017)

Summary of The Great Race by Levi Tillemann-QuickRead 2021-10-05 Learn about the race to craft the car of the future. The Great Race (2016) is the story of the future. Written for car enthusiasts, engineers, or anyone who just loves cars, The Great Race is a historical anthology of the international drive to create the best electric car. Do you want more free book summaries like this? Download our app for free at https://www.QuickRead.com/App and get access to hundreds of free book and audiobook summaries. DISCLAIMER: This book summary is meant as a summary and an analysis and not a replacement for the original work. If you like this summary please consider purchasing the original book to get the full experience as the original author intended it to be. If you are the original author of any book published on QuickRead and want us to remove it, please contact us at hello@quickread.com.

Insane Mode-Hamish McKenzie 2019-10-08 A USA Today New and Noteworthy Title “You’ll tell me if it ever starts getting genuinely insane, right?”—Elon Musk, TED interview Hamish McKenzie tells how a Silicon Valley start-up’s wild dream came true. Tesla is a car company that stood up against not only the might of the government-backed Detroit car manufacturers but also the massive power of Big Oil and its benefactors, the infamous Koch brothers. The award-winning Tesla Model 3, a premium mass-market electric car that went on sale in 2018, has reconfigured the popular perception of Tesla and continues to transform the electric vehicle industry. Operating costs to drive the vehicle, “the breakdown for a gas-powered car VS an electric car comes out to be $9.83 per 100 miles for a gas car and $5.27 per 100 miles for an electric vehicle. When directly compared, the cost to power an electric vehicle is about half of what it costs to fuel your gas-powered car. It is important to note that pricing for power varies depending on your utility company and how they charge for power. For example, some utility companies charge higher Time-Of-Use (TOU) rates for things like ‘peak hour usage,’ where the price of power is higher between 4 pm and 9 pm” (“Electric Cars VS,” 2019). While this may seem enticing to be able to save money on gas, you will not drive your electric vehicle enough to defray the $20,000 premium paid to procure it over a gasoline powered vehicle by saving on fuel costs and vehicle maintenance costs. Much to the chagrin of electric vehicle owners, electric vehicles are not the most economical vehicles to own. “Owning and operating a new vehicle in 2017 cost a driver an average of $8,408 annually, or $706 each month, according to a new study from AAA. The annual evaluation of driving costs reveals that small sedans are the least expensive vehicles to drive at $6,354 annually, followed by small SUVs at $7,606 annually, and hybrids at $7,687 annually. New to the Your Driving Costs study in 2017, AAA found that electric vehicles have driving costs at $4,839 per year. Without a gasoline engine to maintain, electric vehicles have the lowest annual maintenance and repair costs, at $982 per year.” (“Costs To Own,” 2017)

Advanced Components for Electric and Hybrid Electric Vehicles-DIANE Publishing Company 1995-03 This workshop concentrated on the technologies to improve the design, performance, manufacturing, and economics of the critical components for the next generation of electric vehicles and hybrid electric vehicles for the year 2000 and beyond. Over 100 illustrations.

The Electric Vehicle-Gips Mom 2013-02-15 One hopes, as a new generation of electric vehicles becomes a reality, the Electric Vehicle offers a long-overdue reassessment of the place of this technology in the history of street transportation.

Modeling and Simulation for Electric Vehicle Applications-Mohamed Amine Fakhfakh 2016-10-05 The book presents interesting topics from the area of modeling and simulation of electric vehicles application. The results presented by the authors of the book chapters are very interesting and inspiring. The book will familiarize the readers with the solutions and enable the readers to enlarge them by their own research. It will be useful for students and engineers working in the area of Automotive engineering and all who are interested in simulating electric vehicles.

Automotive E-Mobility, Industry Analysis

Dennis Schindeldecker 2017-06-20 Seminar paper from the year 2016 in the subject Business economics - Miscellaneous, grade: 1.0, Post University, course: Competitive Intelligence, language: English, abstract: The automotive industry is one of the biggest industries, however there is still uncertainty over how electric vehicles (EVs) will affect the industry and if they will become a key part of the mainstream car-buying market. Electric Mobility (e-Mobility) relates to the electrification of the automotive powertrain, and this analysis will focus to EVs as all vehicles for which an electric motor is the primary source of propulsion (including hybrid, range-extended, battery and fuel cell electric vehicles). This paper will analyze the driving forces and key variables of the industry to support company strategies and decision-making.
Right here, we have countless book future drive electric vehicles and sustainable transportation and collections to check out. We additionally meet the expense of variant types and plus type of the books to browse. The up to standard book, fiction, history, novel, scientific research, as well as various extra sorts of books are readily within reach here.

As this future drive electric vehicles and sustainable transportation, it ends stirring mammal one of the favored ebook future drive electric vehicles and sustainable transportation collections that we have. This is why you remain in the best website to look the incredible ebook to have.