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Electric and Hybrid Cars: A History

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PREFACE

When the first edition of this book came out, the Prius hybrid was king. Electrics had a small following and were being used in test markets. A few cities were experimenting with recharging stations on a very limited scale. Since then, the worldwide movement away from fossil fuels to more sustainable solutions for our autos and energy needs has spurred both government and private investment for research and development of new technologies, alternate fuels, more cost-effective, durable batteries, and expanded infrastructures to support the innovations. New auto manufacturers in India and China have joined the competition; a wide variety of makes and models of electrics and hybrids are appearing in concept cars and production models. This edition brings the reader into the excitement that surrounds this next phase of automotive development and stewardship of our planet. Beginning with a chronicle of more than a century of the politics, technologies, environmental controversies, and marketing strategies that have shaped the auto industry, the book takes the reader from the electric “women’s car” and hybrid cars of the late 19th century to today’s “green” microbial fuel cells, hydrogen refueling and electric recharging infrastructures, and high-performance hybrids and electrics. It contains illustrations of batteries, fuel cells and chassis for the earlier models and photographs of both early and newer electric and hybrid vehicles, with short descriptions of each. A selected annotated bibliography, list of acronyms and index are included for quick reference.

This work does not include mass transit vehicles, neighborhood electric vehicles (NEVs), solar-powered vehicles or detailed explanations of a car’s electrical systems. Nor does it explain the technical workings of the various fuel cells beyond the limits of a general reader’s understanding. It is not meant to be a comprehensive history of electric vehicles. We concentrate on their history in the United States, with some references to United Kingdom, Asian, Scandinavian and western European vehicle development. Readers interested in blueprints of the electrical systems in electric cars might find works of Ernest Henry Wakefield¹ helpful.

This is an overview for the inquisitive, a snapshot of the industry for the entrepreneur and a starting point for student researchers.