

Preface

As European countries face growing pressure to reduce their CO₂ emissions as well as urban air pollution, and generally to find ways to promote sustainable means of transport, a window of opportunity has been opened for clean and more sustainable forms of mobility. Various stakeholders such as supra-national and inter-governmental organisations, governments and their appointed agencies, regional and municipal authorities, private and public transit operators, vehicle manufacturers and the general public have become increasingly aware of and interested in the many possibilities e-mobility offers, both as a tool for reducing emissions of greenhouse gases and pollution, but also as a new (at least in recent times) and interesting type of mobility.

The field of e-mobility as a whole, and the production and deployment of electrical vehicles (EV) in particular, are now widely seen as viable alternatives to traditional means of automotive production and transport/logistics provision, based on the fact that a range of tailpipe emissions and noise can be reduced. Pure EVs, but also hybrid vehicles, are beginning to sell quite well and are progressively taking their places in the mass market, no longer restricted to a few users. Indeed, in countries such as Denmark, Germany, France, Netherlands, Norway, Portugal, Spain, Sweden, the UK, Japan, South Korea, the US and China and Brazil, electromobility is now an established and growing field.

The advantages of e-mobility are many. First of all, this type of mobility is clean at the tailpipe end, with neither carbon, nor noxious gas emissions. Second, it is quiet, i.e. with no noise, a useful feature in inner cities and residential areas. Third, it is the convenience offered by the possibility of having small, compact cars, which take less space and are easier to handle, especially in large cities, and also city distribution (and potentially over longer distances) logistics solutions that can benefit from the above advantages. The challenge of fully decarbonizing and cleaning of electric vehicles in terms of production input and reuse or recycling of electric vehicles depends largely on the energy mix which provides the electric power source, as well as the components input and the manufacturing, reuse and recycling methods. Electric vehicles are also argued and predicted to be able to make a contribution to the electricity smart grid management (vehicle to grid, and

grid to vehicle), as well as interfacing with renewable power sources in a smart grid and vehicles to home solutions.

The growth and expansion of e-mobility has reiterated the need for a wider understanding of its many features. Therefore, a publication which documents and promotes trends in the various areas was deemed as useful, and led to the preparation of this volume.

This book is a contribution to address the many information needs seen in the e-mobility area, and is aimed at showcasing how e-mobility is seen and practiced across the North Sea Region and beyond. It is structured along three parts:

Part I—Policy Frameworks and Decision-Making on EV Adoption and Charging Infrastructure Development

Part II—Regional and City Case Studies on E-Mobility Development

Part III—Technological Advancements and User-Friendly Strategies

This book is also an attempt to offer a platform for a range of actors working in different sectors and areas in the e-mobility sectors, such as in R&D, marketing and in applied projects, to share their knowledge about their experiences and limitations in pursuing e-mobility developments.

Technical, but also organizational, economic, political as well as spatial planning elements are highlighted throughout the book, alongside the need for improving knowledge and management of infrastructure. The case studies and experiences involving countries as varied as Denmark, Germany, Netherlands, the UK and Sweden, as well as California, and the reflection and systematic analyses offered by other authors, offer a concrete view of the issues on the ground.

We would like to thank all authors for sharing their knowledge and experience in this book. We hope that the body of information and knowledge amassed in “E-Mobility in Europe: Trends and Good Practice”, produced as a follow-up to the Interreg IVB Project “E-Mobility in the North Sea Region”, will serve the purpose of illustrating the various sorts of action which are possible, and needed, to better understand and take advantage of the many opportunity such a rapidly growing field offers.

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E-Mobility in Europe

Trends and Good Practice

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2015, XIV, 394 p. 100 illus., Hardcover

ISBN: 978-3-319-13193-1