1. Record Nr. UNINA9910500594503321

Autore	Erickson L. E (Larry Eugene), <1938->
Titolo	Reducing greenhouse gas emissions and improving air quality : two interrelated global challenges / / Larry E. Erickson and Gary Brase
Pubbl/distr/stampa	Taylor & Francis, 2020 Boca Raton : , : CRC Press, , 2019
ISBN	1-351-11656-8 1-351-11657-6 1-351-11658-4
Edizione	[1st.]
Descrizione fisica	1 online resource (179 pages)
Classificazione	LAW034000NAT011000POL044000
Disciplina	628.532
Soggetti	Greenhouse gas mitigation Air quality management Sustainable development Energy conservation Climatic changes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	<P>Introduction. Paris Agreement on Climate Change. Urban Air Quality and Health. Electrification of Transportation. Renewable Energy. Batteries. Smart Grid. Electrical Power Management of Supply and Demand. Off Grid Power Management. Policy. Community Planning and Action. Public Health. Economics. Agriculture. International Developments. Examples of Progress. Conclusions.</P>
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Half Title -- Title page -- Copyright Page -- Table of contents -- Preface -- Acknowledgments -- The Authors -- Contributors -- 1 Introduction -- Abstract -- 1.1 Introduction -- 1.2 Greenhouse Gas Emissions -- 1.3 Air Pollution -- 1.4 Climate Change -- 1.5 Economics -- 1.6 Complex Interactions -- 1.7 Sustainable Development Goals -- 1.8 Linkage Between Reducing Greenhouse Gases and Improving Air Quality -- 1.9 Ecological Sustainable Development -- References -- 2 Paris Agreement on Climate Change -- Abstract -- 2.1 Introduction -- 2.2 Goals of the Paris Agreement -- 2.3 Impacts of Climate Change on Health and Welfare -- 2.4 Importance of Science and Technology -- 2.5 Progress Update -- 2.5.1

Greenhouse Gas Emissions -- 2.5.2 The Goal of 1.5°C -- References -- 3 Urban Air Quality -- Abstract -- 3.1 Introduction -- 3.2 Air Pollutants -- 3.2.1 Particulate Matter in Urban Air -- 3.2.2 Nitrogen Oxides from Combustion -- 3.2.3 Smog and Ozone -- 3.3 Household Air Pollution -- 3.4 Impact of Urban Air Pollution on Health -- 3.5 Improving Urban Air Quality -- 3.6 Public Education -- References -- 4 Electrification of Transportation -- Abstract -- 4.1 Introduction -- 4.2 Plug-In Electric Cars -- 4.2.1 Advantages Associated with Electric Vehicles -- 4.2.2 International Developments -- 4.3 Electric Bicycles -- 4.3.1 Electric Bicycles in China -- 4.3.2 Electric Bicycles in Other Countries -- 4.4 Electric Buses -- 4.5 Electric Trucks -- 4.6 Summary -- References -- 5 Renewable Energy -- Abstract -- 5.1 Introduction -- 5.2 Solar Energy -- 5.3 Wind Energy -- 5.4 Renewable Energy Progress -- References -- 6 Batteries -- Abstract -- 6.1 Introduction -- 6.2 Design/Types -- 6.3 Battery Life -- 6.4 Charging -- 6.5 Battery Disposal -- 6.6 Batteries and the Power Grid -- 6.7 The Future of EV Batteries -- References -- 7 Smart Grid -- Abstract.
7.1 Introduction -- 7.2 Features of a Smart Grid -- 7.3 Energy Storage -- 7.4 Regulatory Topics -- 7.5 Seasons and Demand -- 7.6 Interface Issues -- References -- 8 Electric Power Management -- Abstract -- 8.1 Introduction -- 8.2 New Developments in Storage -- 8.3 Demand Management -- 8.4 Future Supply and Demand Expectations -- References -- 9 Off-Grid Power Management -- Abstract -- 9.1 Introduction: Electricity for All -- 9.2 Small Scale -- 9.3 Mini-Grids -- 9.4 Value of Electricity -- References -- 10 Policy -- Abstract -- 10.1 Introduction -- 10.2 Electricity Generation Policy -- 10.3 Transportation -- 10.4 City Policies -- 10.5 Conclusions -- References -- 11 Economics -- Abstract -- 11.1 Introduction -- 11.2 Costs and Benefits Related to Reducing Greenhouse Gas Emissions -- 11.3 Costs and Benefits Associated with Improving Air Quality -- 11.4 Government Economic Action -- References -- 12 Agriculture -- Abstract -- 12.1 Introduction -- 12.2 Sustainable Development Goals -- 12.3 Greenhouse Gases and Agriculture -- 12.4 Renewable Fuels -- 12.5 Air Quality -- References -- 13 International Developments -- Abstract -- 13.1 Introduction -- 13.2 China -- 13.3 London, United Kingdom -- 13.4 Norway -- References -- 14 Examples of Progress -- Abstract -- 14.1 Introduction -- 14.2 Electric Vehicles -- 14.2.1 Electric Buses -- 14.2.2 Electric Cars -- 14.2.3 Electric Trucks -- 14.3 Battery Storage of Electricity -- 14.4 Analysis of Co-Benefits -- 14.5 Wind Energy -- References -- 15 Air Quality as a Common Resource -- Abstract -- 15.1 Introduction -- 15.2 Common Resources Can Transition Into Other Forms -- 15.3 Public and Club Goods Can Transition -- 15.4 Common Resources Can Be Maintained -- 15.5 Designing Air Quality Management -- 15.6 Addressing Both Climate Change and Air Quality -- References -- 16 Conclusions -- Abstract -- 16.1 Introduction.
16.2 Wind and Solar Energy -- 16.3 Batteries and Electric Power Management -- 16.4 Electrification of Transportation -- 16.5 Technology in Context -- 16.6 The Future of Reducing Emissions and Improving Air Quality -- References -- Index.

Sommario/riassunto

The world's atmosphere is a common resource. Air quality, along with energy, transportation, and climate change have significant impacts on our lives and this book helps readers understand the changes happening at the nexus of these areas, as they relate to reducing greenhouse gas emissions and improving air quality. Discussing the transitions to electric vehicles, solar and wind energy for electricity generation, battery developments, smart grids and electric power management, and progress in the electrification of agricultural technology, it also provides the latest information in the context of the

United Nations sustainable development goals and the Paris Agreement on Climate Change. Features: Includes content on how to improve urban air quality in large cities and urban environments. Effectively addresses the nexus of energy, transportation, air quality, climate change and health. Discusses innovative concepts at the nexus of renewable energy, smart grid, electric vehicles, and electric power management. Describes recent progress in meeting the goals of the Paris Agreement on Climate Change and the benefits of reducing greenhouse gas emissions. Written for a wide audience by world experts in sustainability. Reducing Greenhouse Gas Emission and Improving Air Quality: Two Interrelated Global Challenges, is an invaluable book for professionals and academics at the center of changes relating to solar and wind energy, electric vehicles, and charging infrastructure, including government officials, community leaders, researchers, students, and interested citizens. It is also an excellent text for classes that address sustainability, particularly for those focused on transportation and energy.