

Table of Contents

Part I — Hydrogen Fundamentals

- Hydrogen Cycle
- Hydrogen Production
- Hydrogen Storage
- Hydrogen Transport and Distribution
- Fuel Cells

Part II — Mobile Applications (Automotive Focus)

- State of the Art of Mobile Applications
- Challenges and Requirements for the Car Industry
- Status of Existing Technologies
- Development of Hydrogen Storage Tanks
- Cryogenic Reservoirs
- Safety Analysis of Hydrogen Vehicles and Infrastructure
- Hybrid Systems for Future Automobiles
- Fuel Cell Vehicles: Fundamentals and System Efficiency
- Technology Development and Demonstration Projects

Part III — Portable Applications

- State of the Art Portable Applications
- Status of Existing Portable Technologies
- Development of Portable Hydrogen Systems
- Challenges for Industrial Applications

Part IV — Materials and Advanced Technologies

- Advanced Tools for Development of New Materials
- Nanoscale Hydrogen Storage Materials
- Synthesis of Hydrogen Storage Materials
- Kinetics and Thermodynamics
- High-Pressure Characterization Methods
- Analytical Techniques (SEM, TEM, XPS, XAFS)

Part V — Perspectives and Future Trends

- Scientific Scope of Hydrogen Technology
- Environmental Impact and Sustainability
- Political and Economic Aspects