

1. Record Nr.	UNINA9910583065603321
Titolo	Hydrogen infrastructure for energy applications : production, storage, distribution and safety // Hanane Dagdougui [and three others]
Pubbl/distr/stampa	London, England : , : Academic Press, , 2018 ©2018
ISBN	0-12-812035-5 0-12-812036-3
Descrizione fisica	1 online resource (157 pages) : color illustrations
Disciplina	665.81
Soggetti	Hydrogen as fuel - Economic aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Sommario/riassunto	"Hydrogen Infrastructure for Energy Applications: Production, Storage, Distribution and Safety examines methodologies, new models and innovative strategies for the optimization and optimal control of the hydrogen logistic chain, with particular focus on a network of integrated facilities, sources of production, storage systems, infrastructures and the delivery process to the end users through hydrogen refueling stations. The book discusses the main motivations and criteria behind the adoption of hydrogen as an energy carrier or future fuel alternative. It presents current research in hydrogen production processes, especially from renewable energy sources, as well as storage and distribution. The book also reviews methods to model hydrogen demand uncertainties and challenges for the design of the future hydrogen supply chain. The authors go on to explore the network planning of hydrogen infrastructures, the safety and risk issues in hydrogen logistics and their future expectations. Energy engineering professionals, researchers and graduate students will find this a helpful resource to understand the methodologies used to assess the feasibility for developing hydrogen supply chains, hydrogen infrastructure and safety practices. Energy analysts and government agents can benefit from the book's detailed discussion of hydrogen

energy applicability. Describes in detail the current state of the available approaches for the planning and modeling of the hydrogen infrastructure Discusses safety issues related to hydrogen in different components of its logistic chain and the methodological approach to evaluate risks that results from hydrogen accidents, including a mathematical model to assess the hazard and consequences of an accident scenario of hydrogen in pipelines Proposes a decision support system for hydrogen energy exploitation, focusing on some specific planning aspects, such as selection of locations with high hydrogen production, based mainly on the use of solar and wind energies Presents a short-term scenario of hydrogen distribution for automotive use, with a concrete, detailed, operative plan for a network of refueling service stations for the hydrogen economy"--
