Record Nr. UNINA9910810707803321 **Titolo** Green information technology: a sustainable approach / / edited by Mohammad Dastbaz, Colin Pattinson, Babak Akhgar Pubbl/distr/stampa Amsterdam, [Netherlands]:,: Morgan Kaufmann,, 2015 ©2015 **ISBN** 0-12-801671-X 0-12-801379-6 Edizione [1st edition] Descrizione fisica 1 online resource (348 p.) Disciplina 004.0286 Soggetti Cloud computing Data processing service centers - Energy conservation Big data Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references at the end of each chapters and index. Contents -- Foreword -- Preface -- About the Editors -- Contributor Nota di contenuto Biographies -- Acknowledgments -- Section I: Green IT: Emerging Technologies and Challenges -- Chapter 1: Green ICT: History, Agenda, and Challenges Ahead -- Chapter 2: Emerging Technologies and Their Environmental Impact -- Conclusion -- Section II: Green IT: Law and Measurement -- Chapter 3: Measurements and Sustainability -- Chapter 4: The Law of Green IT -- Chapter 5 - Quantitative and Systemic Methods for Modeling Sustainability -- Section III. Sustainable Computing, Cloud and Big Data -- Chapter 6: Sustainable Cloud Computing -- Chapter 7: Sustainable Software Design -- Chapter 8: Achieving the Green Theme Through the Use of Traffic Characteristics in Data Centers -- Chapter 9: Energy Harvesting and the Internet of Things -- Chapter 10: 3D Printing and Sustainable Product Development Section V. Case Studies -- Chapter 11: Automated Demand Response, Smart Grid Technologies, and Sustainable Energy Solutions -- Chapter 12: Critical Issues for Data Center Energy Efficiency -- Chapter 13: Communitywide Area Network and Mobile ISP -- Chapter 14: Thin-Client and Energy Efficiency -- Chapter 15: Cloud

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Offers in a single volume a broad collection of practical techniques and methodologies for designing, building and implementing a green technology strategy in any large enterprise environment, which up until now has been scattered in difficult-to-find scholarly resources. Included here is the latest information on emerging technologies and their environmental impact, how to effectively measure sustainability, discussions on sustainable hardware and software design, as well as how to use big data and cloud computing to drive efficiencies and establish a framework for sustainability in the information technology infrastructure.