Record Nr. UNINA9910799211303321 Autore Ida Takanori <1965-> Titolo Smart Grid Economics: A Field Experimental Approach to Demand Response / / by Takanori Ida, Makoto Tanaka, Koichiro Ito Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2024 Pubbl/distr/stampa 981-9985-77-3 **ISBN** Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (142 pages) Collana Advances in Japanese Business and Economics, , 2197-8867; ; 32 Disciplina 621.31 Soggetti Economics - Psychological aspects **Economics** Power resources Energy policy **Behavioral Economics** Political Economy of Energy Energy Policy, Economics and Management Natural Resource and Energy Economics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Part I Smart Grid Economics -- Chapter 1 Economics of Smart Grid: Smart Grid, Time-dependent Pricing (Dynamic Pricing), Demand Response -- Part II Field Experimental Economics -- Chapter 2 Economics of Field Experiment: History of Field Experiment, especially in Energy and Environmental Economics -- Chapter 3 Dynamic Pricing: Purpose, Design, and Results of Field Experiment of Dynamic Pricing --Chapter 4 Persistence and Habit Formation: Short-term and Long-term Effects of Conservation Request and Dynamic Pricing -- Chapter 5 Switching Cost and Information Friction: Status Quo Bias and Cognitive Incompleteness of Behavioral Change -- Chapter 6 Social Welfare Analysis: Cost-Benefit Ratio of Installing Smart Grid System -- Part III Toward Power System Restructuring -- Chapter 7 Power System Restructuring and Smart Grids. Sommario/riassunto This book aims to report on a cutting-edge research project of the

smart grid in Japan, resting on the three pillars of field experiments, behavioral economics, and big data. The field experiments on the

smart grid were conducted in four regions in Japan—Yokohama city, Toyota city, Keihanna Science City, and Kitakyushu city—over a three-year period from 2012 to 2014 after the Great East Japan Earthquake on March 11, 2011, and the subsequent accident at the Fukushima Nuclear Power Plants. Our focus here is on demand response in the smart grid environment, which we also discuss in the context of power system reforms. The book is intended for undergraduate and graduate students, researchers, policy makers, and business leaders.