Record Nr. UNINA9910155445103321 Autore Reda Francesco Titolo Solar Assisted Ground Source Heat Pump Solutions: Effective Energy Flows Climate Management / / by Francesco Reda Pubbl/distr/stampa Cham: .: Springer International Publishing: .: Imprint: Springer. . 2017 **ISBN** 3-319-49698-0 Edizione [1st ed. 2017.] Descrizione fisica 1 online resource (XX, 56 p. 36 illus., 22 illus. in color.) Collana SpringerBriefs in Applied Sciences and Technology, , 2191-530X Disciplina 697.7 Soggetti Renewable energy resources Energy systems **Building construction** Renewable and Green Energy **Energy Systems** Building Physics, HVAC Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references at the end of each chapters. Nota di bibliografia Nota di contenuto 1. Ground source heat pump -- 2. Solar thermal collectors -- 3. Solar assisted ground source heat pump -- 4. Performance assessment in different climates -- 5. Conclusion. Sommario/riassunto This book analyses solar-assisted ground-source heat pump systems. a technology meant for producing heating and cooling energy for buildings. It focuses on ground source heat pump, reversible central heating and cooling system that transfer heat from or to the ground, applications which use solar thermal collectors. Providing deep insights into energy-saving, solar thermal system operating strategies, it illustrates examples of useful configurations and controlling approach for different climates for different vertical ground heat exchanger depths. Offering an overview of solar assisted ground source heat pump systems, including design principles and energy-performance data for different climates, it is a valuable resource for designers and scientists who focus on building heating and cooling technologies.