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Sommario/riassunto	<p>Global concern about climate change caused by the exploitation of fossil fuels is encouraging the use of renewable energies. For instance, the European Union aims to be climate neutral by 2050. Biogas is an interesting renewable energy source due to its high calorific value. Today, biogas is mainly used for the production of electricity and heat by a combined heat and power engine. However, before its valorization, biogas needs to be desulfurized (H<sub>2</sub>S removal) to avoid corrosion and sulfur oxides emissions during its combustion. Biogas can be upgraded (CO<sub>2</sub> removal) and used as vehicle fuel or injected into the natural gas grid. In the last 15 years, significant advances have occurred in the development of biological desulfurization processes. In this book with five chapters, the reader can find some of the latest advances in the biogas desulfurization and an overview of the state-of-the-art research. Three of them are research studies and two are reviews concerning the current state of biogas desulfurization technologies, economic analysis of alternatives, and the microbial ecology in biofiltration units. Biogas desulfurization is considered to be essential by many stakeholders (biogas producers, suppliers of biogas upgrading devices, gas traders, researchers, etc.) all around the world.</p>