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WWTPs"; "3.4.1 Background"; "3.4.2 Energy performance indicators"; "3.4.3 Energy performance indices"; "3.4.4 Methodology for PAS application"; "3.5 References"; "Chapter 4: Innovative energy efficient aerobic bioreactors for sewage treatment"; "4.1 Introduction"; "4.2 Aeration"; "4.2.1 Innovative process design and improvement"; "4.3 Increasing Oxygen Transfer from a Bubble"; "4.3.1 Fine bubble diffusers and oxygen transferring technologies"; "4.3.2 Increasing contact time"; "4.4 Bubbleless Aeration-Membrane Aerated Biofilm Reactor"; "4.4.1 Submerged membrane aerated biofilm reactors"; "4.4.2 Passively membrane aerated biofilm reactors"; "4.5 Low Energy Ammonia Removal"; "4.5.1 Ammonia removal"; "4.5.2 Shortcut nitrification"; "4.5.3 Anammox"; "4.6 Other Aerobic Technologies"; "4.6.1 Aerobic granules"; "4.7 Conclusions"; "4.8 References"; "Chapter 5: Integration of energy efficient processes in carbon and nutrient removal from sewage"; "5.1 Introduction"; "5.2 Regulatory Background"; "5.3 Energy Considerations"; "5.4 Conventional Biological Nutrient Removal Processes"; "5.4.1 Description of alternative conventional BNR processes and configurations"; "5.4.2 BNR processes implemented in Europe and Northern America"; "5.4.3 Energy requirements and cost of conventional BNR processes"; "5.5 Innovative Bioprocesses in the Mainstream and Sidestream"; "5.6 Nitrous Oxide Emissions in BNR"; "5.7 Conclusion"; "5.8 Acknowledgement"; "5.9 References"; "Chapter 6: The aerobic granulation as an alternative to conventional activated sludge process"; "6.1 Introduction"

Sommario/riassunto

Sewage Treatment Plants: Economic Evaluation of Innovative Technologies for Energy Efficiency aims to show how cost saving can be achieved in sewage treatment plants through implementation of novel, energy efficient technologies or modification of the conventional, energy demanding treatment facilities towards the concept of energy streamlining. The book brings together knowledge from Engineering, Economics, Utility Management and Practice and helps to provide a better understanding of the real economic value with methodologies and practices about innovative energy technologies and policies in sewage treatment plants.
