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Beatriz Ledesma Cano · María Alonso Sánchez · José Manuel Díaz Rasero · Silvia Román Suero · Sergio Nogales Delgado

Introduction to Hydrocarbonization

Principles and Applications

Springer

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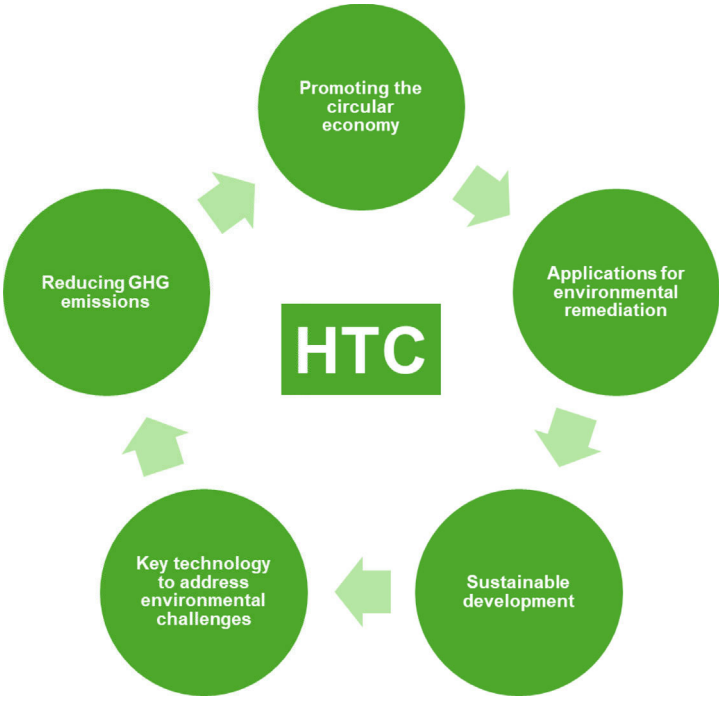
Preface

In recent years, hydrothermal carbonization technology has not only been presented as a promising alternative for the treatment of biomass and other wastes but also as a technique with a strong sustainable approach and aimed at reducing the environmental footprint, with potential applications in areas as diverse as waste management, energy production and soil improvement.



As far as the authors are aware, numerous texts on HTC can be found in the literature, but they are often adapted in such a way that they are only accessible to a specific audience. These texts use highly specialized terminology and deal with topics that can be complex, making it difficult to capture the interest of those who wish to start studying this technique.

For this reason, this book is intended to reach students or junior researchers who aspire to learn about the fundamentals of the technique in an accessible and understandable way, without neglecting the precision and scientific depth needed to establish a solid base of knowledge.

Throughout the chapters, we will explore the meaning of hydrothermal carbonization, going through its basic principles, the main chemical reactions involved, the types of waste used, practical considerations, industrial aspects and the main challenges and current innovations, all with special emphasis on a practical and simple way, supported by problems and questions that invite reflection and allow students to apply what they have learnt in an active way.

The team we form is sensitively involved with sustainability and efficient resource management and we understand that these are critical challenges, which were already a problem in the past, present and future. We are therefore committed to hydrothermal carbonization as a promising alternative for the valorization of waste, contributing to the reduction of carbon footprint and the generation of useful products from materials that might otherwise be considered waste. By training a new generation of students in this technology, we aim to encourage greater innovation and adoption of sustainable solutions in the future.

We hope that this book will serve not only as a source of knowledge but also as an inspiration for those seeking to contribute to the development of clean and sustainable technologies. We are grateful for the opportunity to create a resource that is both informative and accessible.

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