

Emerging Green Technologies for the Manufacturing Sector





Emerging Green Technologies for the Manufacturing Sector



This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

Acknowledgements

This report was prepared under the general guidance of Ludovico Alcorta, Director of the Development Policy, Statistics and Research Branch of UNIDO. The contributors to the report are Wolfgang Eichhammer and Rainer Walz, both from the Fraunhofer Institute for Systems and Innovation Research ISI.

Foreword

The manufacturing sector is key to promoting and diffusing technological change, which in turn is a crucial driver of competitiveness and economic growth. Industrial development therefore has great potential to achieve a number of social objectives including high rates of employment, poverty eradication, gender equality, labour standards and better access to education and health-care. Yet any progress in achieving these social objectives will be short-lived if policymakers and stakeholders do not succeed in ensuring sustainable economic growth and industrial development within an environmentally viable framework.

The task of creating a virtuous cycle of environmentally sustainable and long-term economic growth to eradicate poverty require the implementation of emerging green technologies that are capable of increasing productivity and growth. These technologies should be at the core of any industrial upgrading effort. They allow for an expansion of the technological capabilities of the manufacturing sector while realizing cleaner production, efficient resource management and reductions in waste and pollution.

This document belongs to a series of UNIDO publications designed to provide insights into current and future global trends that will determine the future of manufacturing in developing countries. Its objective is to help policymakers design and implement economic policies to assure continued and sustainable prosperity and to effectively tackle the social, environmental and economic challenges in the years to come.

I sincerely hope that this publication will provide useful insights for the reader on emerging green technologies in the manufacturing sector and their contribution to resolving environmental problems while enhancing the competitiveness of developing countries. I invite policymakers, scholars and business leaders to actively participate in the discussion on these pertinent issues and to address the prevailing social and environmental challenges while joining efforts to establish a new long-term and sustainable development agenda.



Li YONG Director General, UNIDO



Contents

| ecutiveSummary |) |
|--|----------|
| troduction | 1 |
| verview | 3 |
| Main drivers for emerging green technologies in the manufacturing sector | 5 |
| 1.1 Manufacturing industry: Energy consumption and GHG emissions as major driving forces | |
| 1.2 Long-term changes in sustainable "production and consumption" paradigms (Production-Consumption 2.0) | 7 |
| Sustainable patterns of materials turnover | 13 13 |
| 1.3 Sustainable energy and climate technologies | 15 |
| 1.3.1. Selected green technologies for energy-intensive industries | 16 |
| Iron/steelproduction | 18 |

预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5_23250

