

# Contents

## Front Matter

|                   |      |
|-------------------|------|
| Foreword .....    | vii  |
| Preface .....     | ix   |
| Dedication .....  | xiii |
| In Memoriam ..... | xv   |

## SPM

|                                |   |
|--------------------------------|---|
| Summary for Policymakers ..... | 1 |
|--------------------------------|---|

## TS

|                         |    |
|-------------------------|----|
| Technical Summary ..... | 33 |
|-------------------------|----|

## Chapters

|                   |                                                                                    |      |
|-------------------|------------------------------------------------------------------------------------|------|
| <b>Chapter 1</b>  | Introductory Chapter .....                                                         | 111  |
| <b>Chapter 2</b>  | Integrated Risk and Uncertainty Assessment of Climate Change Response Policies ... | 151  |
| <b>Chapter 3</b>  | Social, Economic, and Ethical Concepts and Methods .....                           | 207  |
| <b>Chapter 4</b>  | Sustainable Development and Equity .....                                           | 283  |
| <b>Chapter 5</b>  | Drivers, Trends and Mitigation .....                                               | 351  |
| <b>Chapter 6</b>  | Assessing Transformation Pathways .....                                            | 413  |
| <b>Chapter 7</b>  | Energy Systems .....                                                               | 511  |
| <b>Chapter 8</b>  | Transport .....                                                                    | 599  |
| <b>Chapter 9</b>  | Buildings .....                                                                    | 671  |
| <b>Chapter 10</b> | Industry .....                                                                     | 739  |
| <b>Chapter 11</b> | Agriculture, Forestry and Other Land Use (AFOLU) .....                             | 811  |
| <b>Chapter 12</b> | Human Settlements, Infrastructure, and Spatial Planning .....                      | 923  |
| <b>Chapter 13</b> | International Cooperation: Agreements & Instruments .....                          | 1001 |
| <b>Chapter 14</b> | Regional Development and Cooperation .....                                         | 1083 |
| <b>Chapter 15</b> | National and Sub-national Policies and Institutions .....                          | 1141 |
| <b>Chapter 16</b> | Cross-cutting Investment and Finance Issues .....                                  | 1207 |

## Annexes

|                    |                                                                                                                         |      |
|--------------------|-------------------------------------------------------------------------------------------------------------------------|------|
| <b>Annex I</b>     | Glossary, Acronyms and Chemical Symbols .....                                                                           | 1249 |
| <b>Annex II</b>    | Metrics & Methodology .....                                                                                             | 1281 |
| <b>Annex III</b>   | Technology-specific Cost and Performance Parameters .....                                                               | 1329 |
| <b>Annex IV</b>    | Contributors to the IPCC WGIII Fifth Assessment Report .....                                                            | 1357 |
| <b>Annex V</b>     | Expert Reviewers, Government Reviewers and Other Scientific Advisors<br>of the IPCC WGIII Fifth Assessment Report ..... | 1371 |
| <b>Annex VI</b>    | Permissions to Publish .....                                                                                            | 1415 |
| <b>Index</b> ..... |                                                                                                                         | 1419 |

# Table of Contents

|                  |                                                                                         |           |
|------------------|-----------------------------------------------------------------------------------------|-----------|
| <b>SPM.1</b>     | <b>Introduction .....</b>                                                               | <b>4</b>  |
| <b>SPM.2</b>     | <b>Approaches to climate change mitigation .....</b>                                    | <b>4</b>  |
| <b>SPM.3</b>     | <b>Trends in stocks and flows of greenhouse gases and their drivers .....</b>           | <b>6</b>  |
| <b>SPM.4</b>     | <b>Mitigation pathways and measures in the context of sustainable development .....</b> | <b>10</b> |
| <b>SPM.4.1</b>   | <b>Long-term mitigation pathways .....</b>                                              | <b>10</b> |
| <b>SPM.4.2</b>   | <b>Sectoral and cross-sectoral mitigation pathways and measures .....</b>               | <b>17</b> |
| <b>SPM.4.2.1</b> | <b>Cross-sectoral mitigation pathways and measures .....</b>                            | <b>17</b> |
| <b>SPM.4.2.2</b> | <b>Energy supply .....</b>                                                              | <b>20</b> |
| <b>SPM.4.2.3</b> | <b>Energy end-use sectors .....</b>                                                     | <b>21</b> |
| <b>SPM.4.2.4</b> | <b>Agriculture, Forestry and Other Land Use (AFOLU) .....</b>                           | <b>24</b> |
| <b>SPM.4.2.5</b> | <b>Human settlements, infrastructure and spatial planning .....</b>                     | <b>25</b> |
| <b>SPM.5</b>     | <b>Mitigation policies and institutions .....</b>                                       | <b>26</b> |
| <b>SPM.5.2.1</b> | <b>Sectoral and national policies .....</b>                                             | <b>26</b> |
| <b>SPM.5.2.2</b> | <b>International cooperation .....</b>                                                  | <b>30</b> |