

1 ANNEX 1

2 MAPPING TABLES

Contents

| | | |
|---|--|---|
| 1 | Relating the 2019 Refinement to the 2006 IPCC Guidelines | 3 |
|---|--|---|

Tables

| | | |
|---------|--|---|
| Table 1 | Road map for relating sections in the 2019 Refinement to the 2006 IPCC Guidelines | 3 |
| Table 2 | Road map for relating equations in the 2019 Refinement to the 2006 IPCC Guidelines | 4 |
| Table 3 | Road map for relating tables in the 2019 Refinement to the 2006 IPCC Guidelines | 5 |
| Table 4 | Road map for relating figures in the 2019 Refinement to the 2006 IPCC Guidelines | 6 |

1 RELATING THE 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES

This annex provides a road map for relating sections, equations, tables, figures and boxes in the *2019 Refinement* to the *2006 IPCC Guidelines* (Type of Refinement: E – Elaboration, U – Update, NG – New Guidance).

| TABLE 1 ROAD MAP FOR RELATING SECTIONS IN THE 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES | | | |
|--|---------------------------|--|---------------------------------------|
| Section Title | Type of Refinement | 2006 IPCC Guidelines Section Number | 2019 Refinement Section Number |
| Treatment of biomass | E | 2.3.3.4 | 2.3.3.4 |
| Introduction | E | 4.1 | 4.1 |
| Overview and description of sources | E | 4.1.1 | 4.1.1 |
| Methodological issues | E | 4.1.2 | 4.1.2 |
| Underground coal mines | E | 4.1.3 | 4.1.3 |
| Choice of method | E | 4.1.3.1 | 4.1.3.1 |
| Choice of emission factor | E | 4.1.3.2 | 4.1.3.2 |
| Uncertainty Assessment | E | 4.1.3.6 | 4.1.3.6 |
| Surface coal mining | E | 4.1.4 | 4.1.4 |
| Choice of emission factor | E | 4.1.4.2 | 4.1.4.2 |
| Uncertainty Assessment | E | 4.1.4.6 | 4.1.4.6 |
| Coal exploration | E | - | 4.1.6 |
| Completeness | E | 4.1.6 | 4.1.7 |
| Fugitive emissions from oil and natural gas systems | U | 4.2 | 4.2 |
| Overview, description of sources | U | 4.2.1 | 4.2.1 |
| Methodological issues | U | 4.2.2 | 4.2.2 |
| Choice of method, decision trees, tiers | U | 4.2.2.1 | 4.2.2.1 |
| Choice of method | U | 4.2.2.2 | 4.2.2.2 |
| Choice of emission factor | U | 4.2.2.3 | 4.2.2.3 |
| Choice of activity data | U | 4.2.2.4 | 4.2.2.4 |
| Completeness | U | 4.2.2.5 | 4.2.2.5 |
| Developing consistent time series | U | 4.2.2.6 | 4.2.2.6 |
| Uncertainty Assessment | U | 4.2.2.7 | 4.2.2.7 |
| Inventory Quality Assurance/Quality Control (QA/QC) | U | 4.2.3 | 4.2.3 |
| Reporting and Documentation | U | 4.2.4 | 4.2.4 |
| Fugitive emissions from fuel transformation | NG | - | 4.3 |

First-order Draft

18

| TABLE 2 ROAD MAP FOR RELATING EQUATIONS IN THE 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES | | | |
|---|---------------------------|---|--|
| Equation Title | Type of Refinement | 2006 IPCC Guidelines Equation Number | 2019 Refinement Equation Number |
| Estimating emissions from underground coal mines | E | 4.1.2 | 4.1.2 |
| Tier 1: global average method – underground mining – carbon dioxide | E | - | 4.1.3.a |
| General equation for estimating fugitive emissions from surface coal mining | E | 4.1.6 | 4.1.6 |
| Tier 1: global average method – surface mines– carbon dioxide | E | - | 4.1.7.a |
| Coal exploration Tier 1: global average method | E | - | 4.1.14 |
| Coal exploration Tier 2: depthwise method | E | - | 4.1.15 |

19

20

| TABLE 3 ROAD MAP FOR RELATING TABLES IN THE 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES | | | |
|---|---------------------------|--|-------------------------------------|
| Table Title | Type of Refinement | 2006 IPCC Guidelines Table Number | 2019 Refinement Table Number |
| Summary of sources | E | 4.1.1 | 4.1.1 |
| Estimates of uncertainty for underground mining for tier 1 and tier 2 approaches | E | 4.1.2 | 4.1.2 |
| Estimates of uncertainty for surface mining for tier 1 and tier 2 approaches | E | 4.1.4 | 4.1.4 |
| Major categories and subcategories in the oil and gas industry | U | 4.2.2 | 4.2.1 |
| Tier 1 Emission Factors for Oil Exploration, 1.B.2.a.iii.1 | U | 4.2.4 and 4.2.5 | 4.2.3 |
| Tier 1 Emission Factors for Oil Production, 1.B.2.a.iii.2 | U | 4.2.4 and 4.2.5 | 4.2.4 |
| Tier 1 Emission Factors for Oil Transport, 1.B.2.a.iii.3 | U | 4.2.4 and 4.2.5 | 4.2.5 |
| Tier 1 Emission Factors for Oil Refining, 1.B.2.a.iii.4 | U | 4.2.4 and 4.2.5 | 4.2.6 |
| Tier 1 Emission Factors for Distribution of Oil Products, 1.B.2.a.iii.5 | U | 4.2.4 and 4.2.5 | 4.2.7 |
| Tier 1 Emission Factors for Abandoned Oil Wells, 1.B.2.a.iii.7 | U | - | 4.2.8 |
| Tier 1 Emission factors for Natural Gas Exploration Segment, 1.B.2.b.iii.1 | U | 4.2.4 and 4.2.5 | 4.2.9 |
| Tier 1 Emission factors for Natural Gas Production Segment, 1.B.2.b.iii.2 | U | 4.2.4 and 4.2.5 | 4.2.10 |
| Tier 1 Emission factors for Gas Processing Segment, 1.B.2.b.iii.3 | U | 4.2.4 and 4.2.5 | 4.2.11 |
| Tier 1 Emission factors for Gas Transmission and Storage Segment, 1.B.2.b.iii.4 | U | 4.2.4 and 4.2.5 | 4.2.12 |
| Tier 1 Emission factors for Distribution Segment, 1.B.2.b.iii.5 | U | 4.2.4 and 4.2.5 | 4.2.13 |
| Typical activity data requirements for each assessment approach for fugitive emissions from oil and gas operations by type of primary source category | E | 4.2.6 | 4.2.14 |
| Guidance on Obtaining the Activity Data Values Required for Use in the Tier 1 Approach to Estimate Fugitive Emissions from Oil and Gas Operation | E | 4.2.7 | 4.2.15 |
| Format for summarizing the applied methodology and basis for estimated emissions from oil and natural gas systems showing sample entries | E | 4.2.8 | 4.2.16 |

21

First-order Draft

22

| TABLE 4 ROAD MAP FOR RELATING FIGURES IN THE 2019 REFINEMENT TO THE 2006 IPCC GUIDELINES | | | |
|---|---------------------------|---|--------------------------------------|
| Figure Title | Type of Refinement | 2006 IPCC Guidelines Figure Number | 2019 Refinement Figure Number |
| Decision tree for carbon dioxide from underground coal mines | E | - | 4.1.1.a |
| Key segments included in natural gas and petroleum systems. | U | - | 4.2.1. |
| Decision tree for abandoned wells | U | - | 4.2.5 |

23