

ANNEX 4. Additional information for the Industrial Processes sector

Annex 4_I

Table 4_I.1. CO₂ emissions from ammonia production (Gg), Tier 1a

| | Amount of Gas | Carbon Content | Conversion | CO ₂ emitted | CO ₂ emitted |
|------|----------------------------|-----------------------------|------------|-------------------------|-------------------------|
| | Consumed (m ³) | of Gas (kg/m ³) | Ratio | (kg) | (Gg) |
| | | | | D = (A x B x C) | E = D/1 000 000 |
| 1990 | 225200000 | 0.5568 | 44/12 | 459 768 320.00 | 459.768 |
| 1991 | 208000000 | 0.5568 | 44/12 | 424 652 800.00 | 424.653 |
| 1992 | 107800000 | 0.5568 | 44/12 | 220 084 480.00 | 220.084 |
| 1993 | 42350000 | 0.5568 | 44/12 | 86 461 760.00 | 86.462 |
| 1994 | 139300000 | 0.5568 | 44/12 | 284 394 880.00 | 284.395 |
| 1995 | 146400000 | 0.5568 | 44/12 | 298 890 240.00 | 298.890 |
| 1996 | 145000000 | 0.5568 | 44/12 | 296 032 000.00 | 296.032 |
| 1997 | 142900000 | 0.5568 | 44/12 | 291 744 640.00 | 291.745 |
| 1998 | 144100000 | 0.5568 | 44/12 | 294 194 560.00 | 294.195 |
| 1999 | 139400000 | 0.5568 | 44/12 | 284 599 040.00 | 284.599 |
| 2000 | 123900000 | 0.5568 | 44/12 | 252 954 240.00 | 252.954 |
| 2001 | 133400000 | 0.5568 | 44/12 | 272 349 440.00 | 272.349 |
| 2002 | 33900000 | 0.5568 | 44/12 | 69 210 240.00 | 69.210 |
| 2003 | 73600000 | 0.5568 | 44/12 | 150 261 760.00 | 150.262 |
| 2004 | 134944000 | 0.5568 | 44/12 | 275 501 670.40 | 275.502 |
| 2005 | 146500000 | 0.5568 | 44/12 | 299 094 400.00 | 299.094 |
| 2006 | 146190000 | 0.5568 | 44/12 | 298 461 504.00 | 298.462 |

Table 4_I.2. CO₂ emissions from ammonia production emitted into atmosphere (Gg)

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|--|------------|------------|------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|------------|------------|
| Natural gas consumption, million m ³ | 225 | 208 | 108 | 42 | 139 | 146 | 145 | 143 | 144 | 139 | 124 | 133 | 34 | 74 | 135 | 147 | 146 |
| CO ₂ , kt | 460 | 425 | 220 | 86 | 284 | 299 | 296 | 292 | 294 | 285 | 253 | 272 | 69 | 150 | 276 | 299 | 298 |
| CO ₂ for carbamide production and sold (exported) | 143 | 133 | 70 | 27 | 82 | 91 | 85 | 69 | 53 | 68 | 65 | 70 | 41 | 57 | 104 | 156 | 164 |
| Total CO ₂ emissions, Gg | 317 | 292 | 150 | 60 | 202 | 207 | 211 | 222 | 242 | 217 | 188 | 203 | 28 | 93 | 171 | 144 | 135 |