

**TYPE OF GHGs TO BE CONSIDERED IN ACCOUNTING FOR PROJECT AND LEAKAGE EMISSIONS****(Extract of the report of the thirty-fourth meeting of the Executive Board, paragraph 17)**

With reference to a proposed methodology, the Board considered the analysis of implication of different options proposed by the Meth Panel with regard to accounting emissions of GHGs and also implications on gases covered under the Montreal Protocol. The Board agreed that:

- (a) The project boundary shall encompass all anthropogenic emissions by sources of greenhouse gases, as defined in paragraph 1 of the Convention but not included in Annex A of the Kyoto Protocol, under the control of the project participants that are significant and reasonably attributable to the CDM project activity.
- (b) The leakage emissions from greenhouse gases, as defined in paragraph 1 of the Convention but not included in Annex A of the Kyoto Protocol, should be accounted, if the CDM project activity results in an increase of such emissions.
- (c) The global warming potentials used to calculate the carbon dioxide equivalence of anthropogenic emissions by sources of greenhouse gases not listed in Annex A, shall be those accepted by the Intergovernmental Panel on Climate Change in its third assessment report.

See table below:

GWP values for greenhouse gases (GHGs) as per the third assessment report TAR. Note TAR GWP values should be used only for those GHGs for which SAR does not report a GWP value.

<i>Direct Global Warming Potentials (mass basis) relative to carbon dioxide (for gases for which the lifetimes have been adequately characterised).</i>		
<b>Gas</b>		<b>Global Warming Potential</b>
		<b>Time</b>
		<b>100 years</b>
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	23
Nitrous oxide	N <sub>2</sub> O	296
<b>Chlorofluorocarbons</b>		
CFC-11	CCl <sub>3</sub> F	4600
CFC-12	CCl <sub>2</sub> F <sub>2</sub>	10600
CFC-13	CCIF <sub>3</sub>	14000
CFC-113	CCl <sub>2</sub> FCCIF <sub>2</sub>	6000
CFC-114	CCIF <sub>2</sub> CCIF <sub>2</sub>	9800
CFC-115	CF <sub>3</sub> CCIF <sub>2</sub>	7200

**Hydrochlorofluorocarbons**

HCFC-21	CHCl <sub>2</sub> F	210
HCFC-22	CHClF <sub>2</sub>	1700
HCFC-123	CF <sub>3</sub> CHCl <sub>2</sub>	120
HCFC-124	CF <sub>3</sub> CHClF	620
HCFC-141b	CH <sub>3</sub> CCl <sub>2</sub> F	700
HCFC-142b	CH <sub>3</sub> CClF <sub>2</sub>	2400
HCFC-225ca	CF <sub>3</sub> CF <sub>2</sub> CHCl <sub>2</sub>	180
HCFC-225cb	CClF <sub>2</sub> CF <sub>2</sub> CHClF	620

**Hydrofluorocarbons**

HFC-23	CHF <sub>3</sub>	12000
HFC-32	CH <sub>2</sub> F <sub>2</sub>	550
HFC-41	CH <sub>3</sub> F	97
HFC-125	CHF <sub>2</sub> CF <sub>3</sub>	3400
HFC-134	CHF <sub>2</sub> CHF <sub>2</sub>	1100
HFC-134a	CH <sub>2</sub> FCF <sub>3</sub>	1300
HFC-143	CHF <sub>2</sub> CH <sub>2</sub> F	330
HFC-143a	CF <sub>3</sub> CH <sub>3</sub>	4300
HFC-152	CH <sub>2</sub> FCH <sub>2</sub> F	43
HFC-152a	CH <sub>3</sub> CHF <sub>2</sub>	120
HFC-161	CH <sub>3</sub> CH <sub>2</sub> F	12
HFC-227ea	CF <sub>3</sub> CHF <sub>2</sub> CF <sub>3</sub>	3500
HFC-236cb	CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	1300
HFC-236ea	CHF <sub>2</sub> CHF <sub>2</sub> CF <sub>3</sub>	1200
HFC-236fa	CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>	9400
HFC-245ca	CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>	640
HFC-245fa	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	950
HFC-365mfc	CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	890
HFC-43-10mee	CF <sub>3</sub> CHFCH <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub>	1500

**Chlorocarbons**

CH <sub>3</sub> CCl <sub>3</sub>		140
CCl <sub>4</sub>		1800
CHCl <sub>3</sub>		30
CH <sub>3</sub> Cl		16
CH <sub>2</sub> Cl <sub>2</sub>		10

**Bromocarbons**

CH <sub>3</sub> Br		5
CH <sub>2</sub> Br <sub>2</sub>		1
CHBrF <sub>2</sub>		470
Halon-1211	CBrClF <sub>2</sub>	1300
Halon-1301	CBrF <sub>3</sub>	6900

**Iodocarbons**

CF <sub>3</sub> I		1
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**Fully fluorinated species**

SF <sub>6</sub>		22200
CF <sub>4</sub>		5700
C <sub>2</sub> F <sub>6</sub>		11900
C <sub>3</sub> F <sub>8</sub>		8600
C <sub>4</sub> F <sub>10</sub>		8600
c-C <sub>4</sub> F <sub>8</sub>		10000
C <sub>5</sub> F <sub>12</sub>		8900
C <sub>6</sub> F <sub>14</sub>		9000

**Ethers and Halogenated Ethers**

CH <sub>3</sub> OCH <sub>3</sub>		1
(CF <sub>3</sub> ) <sub>2</sub> CFOCH <sub>3</sub>		330
(CF <sub>3</sub> )CH <sub>2</sub> OH		57
CF <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> OH		40
(CF <sub>3</sub> ) <sub>2</sub> CHOH		190
HFE-125	CF <sub>3</sub> OCHF <sub>2</sub>	14900
HFE-134	CHF <sub>2</sub> OCHF <sub>2</sub>	6100
HFE-143a	CH <sub>3</sub> OCF <sub>3</sub>	750
HCFE-235da2	CF <sub>3</sub> CHClOCHF <sub>2</sub>	340
HFE-245cb2	CF <sub>3</sub> CF <sub>2</sub> OCH <sub>3</sub>	580
HFE-245fa2	CF <sub>3</sub> CH <sub>2</sub> OCHF <sub>2</sub>	570
HFE-254cb2	CHF <sub>2</sub> CF <sub>2</sub> OCH <sub>3</sub>	30
HFE-347mcc3	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> OCH <sub>3</sub>	480
HFE-356pcf3	CHF <sub>2</sub> CF <sub>2</sub> CH <sub>2</sub> OCHF <sub>2</sub>	430
HFE-374pc2	CHF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>	540
HFE-7100	C <sub>4</sub> F <sub>9</sub> OCH <sub>3</sub>	390
HFE-7200	C <sub>4</sub> F <sub>9</sub> OC <sub>2</sub> H <sub>5</sub>	55
H-Galden 1040x	CHF <sub>2</sub> OCF <sub>2</sub> OC <sub>2</sub> F <sub>4</sub> OCHF <sub>2</sub>	1800
HG-10	CHF <sub>2</sub> CHF <sub>2</sub> OCF <sub>2</sub> OCHF <sub>2</sub>	2700
HG-01	CHFOCF <sub>2</sub> CHFOCF <sub>2</sub> CHFOCF <sub>2</sub>	1500



*Direct Global Warming Potentials (mass basis) relative to carbon dioxide (for gases for whose lifetime has been determined only via indirect means, rather than laboratory measurements, or for whom there is uncertainty over the loss processes). Radiative efficiency is defined with respect to all sky.*

Gas		Global Warming Potential
		Time
		100 years

NF <sub>3</sub>		10800
SF <sub>5</sub> CF <sub>3</sub>		>17500
c-C <sub>3</sub> F <sub>6</sub>		>16800

HFE-227ea	CF <sub>3</sub> CHFOCF <sub>3</sub>	1500
HFE-236ea2	CF <sub>3</sub> CHFOCHF <sub>2</sub>	960
HFE-236fa	CF <sub>3</sub> CH <sub>2</sub> OCF <sub>3</sub>	470
HFE-245fa1	CHF <sub>2</sub> CH <sub>2</sub> OCF <sub>3</sub>	280
HFE-263fb2	CF <sub>3</sub> CH <sub>2</sub> OCH <sub>3</sub>	11

HFE-329mcc2	CF <sub>3</sub> CF <sub>2</sub> OCF <sub>2</sub> CHF <sub>2</sub>	890
HFE-338mcf2	CF <sub>3</sub> CF <sub>2</sub> OCH <sub>2</sub> CF <sub>3</sub>	540
HFE-347mcf2	CF <sub>3</sub> CF <sub>2</sub> OCH <sub>2</sub> CHF <sub>2</sub>	360
HFE-356mec3	CF <sub>3</sub> CHFCF <sub>2</sub> OCH <sub>3</sub>	98
HFE-356pcc3	CHF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> OCH <sub>3</sub>	110
HFE-356pcf2	CHF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CHF <sub>2</sub>	260
HFE-365mcf3	CF <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> OCH <sub>3</sub>	11

(CF <sub>3</sub> ) <sub>2</sub> CHOCHF <sub>2</sub>		370
(CF <sub>3</sub> ) <sub>2</sub> CHOCH <sub>3</sub>		26

-(CF <sub>2</sub> ) <sub>4</sub> CH(OH)-		70
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