

BR CTF submission workbook

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Contents

<u>Table 1s1</u>	
<u>Table 1s2</u>	
<u>Table 1s3</u>	
<u>Table 1(a)s1</u>	
<u>Table 1(a)s2</u>	
<u>Table 1(a)s3</u>	
<u>Table 1(b)s1</u>	
<u>Table 1(b)s2</u>	
<u>Table 1(b)s3</u>	
<u>Table 1(c)s1</u>	
<u>Table 1(c)s2</u>	
<u>Table 1(c)s3</u>	
<u>Table 1(d)s1</u>	
<u>Table 1(d)s2</u>	
<u>Table 1(d)s3</u>	
<u>Table 2(a)</u>	
<u>Table 2(b)</u>	
<u>Table 2(c)</u>	
<u>Table 2(d)</u>	
<u>Table 2(e)I</u>	
<u>Table 2(e)II</u>	
<u>Table 2(f)</u>	
<u>Table 3</u>	
<u>Table 4</u>	
<u>Table 4(a)I_2015</u>	
<u>Table 4(a)I_2016</u>	
<u>Table 4(a)II</u>	
<u>Table 4(b)</u>	
<u>Table 5</u>	
<u>Table 6(a)</u>	
<u>Table 6(b)</u>	Greenhouse gas projections: Scenario 'without measures' was
<u>Table 6(c)</u>	Greenhouse gas projections: Scenario 'with additional measures' was not included.
<u>Table 7_2015</u>	
<u>Table 7_2016</u>	
<u>Table 7(a)_2015</u>	
<u>Table 7(a)_2016</u>	
<u>Table 7(b)_2015</u>	
<u>Table 7(b)_2016</u>	
<u>Table 8</u>	
<u>Table 9</u>	

Table 1

Emission trends: summary ⁽¹⁾
(Sheet 1 of 3)

<i>GREENHOUSE GAS EMISSIONS</i>	Base year ^a	1990
	<i>kt CO₂ eq</i>	
CO ₂ emissions without net CO ₂ from LULUCF	1,157,164.5	1,157,164.5
CO ₂ emissions with net CO ₂ from LULUCF	1,093,427.3	1,093,427.3
CH ₄ emissions without CH ₄ from LULUCF	44,223.07	44,223.07
CH ₄ emissions with CH ₄ from LULUCF	44,296.05	44,296.05
N ₂ O emissions without N ₂ O from LULUCF	31,517.58	31,517.58
N ₂ O emissions with N ₂ O from LULUCF	31,726.66	31,726.66
HFCs	15,932.31	15,932.31
PFCs	6,539.30	6,539.30
Unspecified mix of HFCs and PFCs		
SF ₆	12,850.07	12,850.07
NF ₃	32.61	32.61
Total (without LULUCF)	1,268,259.4	1,268,259.4

Table 1

JPN_BR3_v2.0

Emission trends: summary ⁽¹⁾
(Sheet 2 of 3)

<i>GREENHOUSE GAS EMISSIONS</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	CO ₂ emissions without net CO ₂ from LULUCF	1,219,612.0	1,254,575.0	1,275,777.1	1,259,003.5	1,296,054.6	1,301,102.9	1,300,190.1	1,307,693.1	1,287,099.0
CO ₂ emissions with net CO ₂ from LULUCF	1,133,149.1	1,167,567.0	1,186,712.0	1,169,928.9	1,205,567.9	1,200,780.5	1,203,240.7	1,215,898.8	1,200,778.0	1,238,767.3
CH ₄ emissions without CH ₄ from LULUCF	37,827.74	37,688.16	37,666.02	36,606.10	35,936.38	34,463.26	35,484.03	35,279.25	34,762.49	35,013.48
CH ₄ emissions with CH ₄ from LULUCF	37,898.63	37,752.17	37,732.72	36,677.85	36,017.29	34,524.19	35,554.43	35,346.11	34,821.18	35,071.52
N ₂ O emissions without N ₂ O from LULUCF	33,186.15	27,033.25	29,561.41	25,990.57	25,443.31	25,243.32	25,234.54	24,829.11	24,796.05	24,191.01
N ₂ O emissions with N ₂ O from LULUCF	33,379.35	27,224.36	29,750.62	26,178.43	25,630.16	25,426.50	25,416.68	25,008.76	24,972.95	24,365.75
HFCs	23,742.10	24,368.28	22,852.00	19,462.52	16,236.39	16,228.36	12,420.92	12,781.83	14,627.06	16,707.19
PFCs	16,568.48	13,118.06	11,873.11	9,878.47	9,199.44	8,854.21	9,216.64	8,623.35	8,998.78	7,916.85
Unspecified mix of HFCs and PFCs										
SF ₆	13,224.10	9,176.62	7,031.36	6,066.02	5,735.48	5,406.31	5,258.70	5,053.01	5,228.90	4,733.45
NF ₃	188.13	315.27	285.77	294.81	371.48	416.10	486.04	1,471.75	1,401.31	1,586.80
Total (without LULUCF)	1,344,348.7	1,366,274.6	1,385,046.8	1,357,302.0	1,388,977.1	1,391,714.5	1,388,291.0	1,395,731.5	1,376,913.5	1,411,862.2
Total (with LULUCF)	1,258,149.9	1,279,521.8	1,296,237.6	1,268,487.0	1,298,758.1	1,291,636.2	1,291,594.1	1,304,183.6	1,290,828.2	1,329,148.9
Total (without LULUCF, with indirect)	1,348,350.6	1,370,262.1	1,389,104.9	1,360,938.9	1,392,383.1	1,394,989.9	1,391,488.4	1,398,823.6	1,379,939.0	1,414,752.3
Total (with LULUCF, with indirect)	1,262,151.9	1,283,509.3	1,300,295.7	1,272,123.8	1,302,164.1	1,294,911.6	1,294,791.5	1,307,275.8	1,293,853.7	1,332,039.0

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	1. Energy	1,154,462.4	1,189,439.1	1,209,882.0	1,195,461.4	1,235,011.3	1,240,572.9	1,240,100.4	1,247,116.3	1,226,966.9
2. Industrial processes and product use	122,813.58	110,147.87	108,173.62	97,152.77	90,166.14	88,783.61	85,579.39	86,721.16	89,543.05	88,651.79
3. Agriculture	34,658.30	34,795.78	35,322.91	34,865.88	35,080.02	33,992.30	35,152.12	35,227.10	35,041.65	36,149.19
4. Land Use, Land-Use Change and Forestry ^b	-86,198.73	-86,752.80	-88,809.20	-88,815.07	-90,218.99	-100,078.27	-96,696.90	-91,547.81	-86,085.36	-82,713.30
5. Waste	32,414.38	31,891.82	31,668.20	29,822.01	28,719.62	28,365.66	27,459.04	26,666.91	25,361.93	24,702.11
6. Other										
Total (including LULUCF)	1,258,149.9	1,279,521.8	1,296,237.6	1,268,487.0	1,298,758.1	1,291,636.2	1,291,594.1	1,304,183.6	1,290,828.2	1,329,148.9

Note: All footnotes for this table are given on sheet 3.

Table 1

Emission trends: summary ⁽¹⁾
(Sheet 3 of 3)

	2008	2009
<i>GREENHOUSE GAS EMISSIONS</i>		
CO ₂ emissions without net CO ₂ from LULUCF	1,237,290.8	1,164,685.29
CO ₂ emissions with net CO ₂ from LULUCF	1,164,933.5	1,096,517.50
CH ₄ emissions without CH ₄ from LULUCF	34,719.41	33,802.46
CH ₄ emissions with CH ₄ from LULUCF	34,800.45	33,867.70
N ₂ O emissions without N ₂ O from LULUCF	23,264.00	22,689.78
N ₂ O emissions with N ₂ O from LULUCF	23,438.30	22,860.78
HFCs	19,284.93	20,937.33
PFCs	5,743.40	4,046.87
Unspecified mix of HFCs and PFCs		
SF ₆	4,177.17	2,446.63
NF ₃	1,481.04	1,354.16
Total (without LULUCF)	1,325,960.7	1,249,962.52
Total (with LULUCF)	1,253,858.8	1,182,030.95
Total (without LULUCF, with indirect)	1,328,576.0	1,252,372.78
Total (with LULUCF, with indirect)	1,256,474.0	1,184,441.21
<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>		
1. Energy	1,180,333.4	1,115,589.16

Table 1 (a)
Emission trends (CO₂)
(Sheet 1 of 3)

JPN_BR3_v2.0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ^a	1990	1991	1992	1993	1994	1995	1996	1997
	kt								
1. Energy	1,078,302.4	1,078,302.4	1,085,722.3	1,094,935.3	1,089,556.0	1,146,985.6	1,160,006.8	1,171,925.5	1,171,792.7
A. Fuel combustion (sectoral approach)	1,078,110.8	1,078,110.8	1,085,507.4	1,094,727.0	1,089,344.3	1,146,754.5	1,159,485.3	1,171,354.8	1,171,212.4
1. Energy industries	352,782.85	352,782.85	355,881.04	362,715.03	346,422.62	387,366.79	377,028.59	379,153.02	377,005.39
2. Manufacturing industries and construction	380,140.18	380,140.18	375,130.51	368,513.32	367,039.13	376,906.39	382,895.22	386,977.67	387,219.36
3. Transport	200,214.98	200,214.98	212,672.57	218,928.64	222,568.29	231,618.00	240,453.11	246,923.50	248,301.34
4. Other sectors	144,972.86	144,972.86	141,823.37	144,570.04	153,314.35	150,863.36	159,108.43	158,300.67	158,686.32
5. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
B. Fugitive emissions from fuels	191.57	191.57	214.87	208.31	211.66	231.05	521.46	570.68	580.36
1. Solid fuels	5.32	5.32	4.80	4.28	3.60	2.96	2.41	2.11	2.00
2. Oil and natural gas and other emissions from energy production	186.25	186.25	210.07	204.03	208.06	228.10	519.05	568.57	578.36
C. CO ₂ transport and storage	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE
2. Industrial processes	65,125.99	65,125.99	66,220.90	66,149.52	64,863.51	66,439.76	66,774.09	67,297.68	64,691.80
A. Mineral industry	49,218.66	49,218.66	50,536.32	50,953.31	50,239.91	51,250.19	51,130.78	51,473.76	48,824.78
B. Chemical industry	7,039.03	7,039.03	7,007.49	6,823.98	6,386.88	6,805.43	7,012.82	7,067.01	7,060.47
C. Metal industry	7,272.76	7,272.76	7,091.43	6,796.03	6,652.23	6,656.19	6,849.59	6,870.52	6,834.13
D. Non-energy products from fuels and solvent use	1,531.28	1,531.28	1,518.88	1,510.94	1,524.93	1,661.15	1,709.35	1,806.71	1,886.33
E. Electronic industry									
F. Product uses as ODS substitutes									
G. Other product manufacture and use									
H. Other	64.27	64.27	66.77	65.27	59.56	66.80	71.54	79.67	86.09
3. Agriculture	608.88	608.88	547.88	493.01	523.52	342.54	359.13	349.62	371.50
A. Enteric fermentation									
B. Manure management									
C. Rice cultivation									
D. Agricultural soils									
E. Prescribed burning of savannas									
F. Field burning of agricultural residues									
G. Liming	550.24	550.24	527.37	477.14	481.58	292.76	303.53	292.74	303.65
H. Urea application	58.64	58.64	20.51	15.87	41.94	49.79	55.60	56.88	67.85
I. Other carbon-containing fertilizers	NO	NO	NO	NO	NO	NO	NO	NO	NO
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land Use, Land-Use Change and Forestry	-63,737.12	-63,737.12	-71,700.31	-74,837.04	-77,827.16	-77,019.12	-78,049.68	-83,239.83	-85,097.81
A. Forest land	-79,074.44	-79,074.44	-86,229.15	-86,577.51	-86,923.35	-87,267.75	-87,612.49	-91,284.18	-91,124.24

B. Cropland	11,506.03	11,506.03	10,470.07	7,037.34	5,413.90	6,244.31	5,437.05	3,795.18	3,176.79
C. Grassland	1,027.72	1,027.72	802.88	74.16	-213.90	92.74	678.70	329.71	47.22
D. Wetlands	78.53	78.53	70.09	220.34	122.35	101.27	311.29	552.73	104.89
E. Settlements	2,132.58	2,132.58	2,673.94	3,023.52	1,674.99	896.64	738.84	146.64	-70.02
F. Other land	1,028.32	1,028.32	1,145.73	918.66	1,123.40	1,013.07	848.67	777.33	1,032.86
G. Harvested wood products	-435.86	-435.86	-633.89	466.44	975.46	1,900.60	1,548.27	2,442.76	1,734.69
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	13,127.19	13,127.19	13,143.50	14,190.78	13,943.46	16,456.79	16,708.85	17,125.19	17,712.12
A. Solid waste disposal	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE
B. Biological treatment of solid waste									
C. Incineration and open burning of waste	12,424.36	12,424.36	12,457.05	13,491.88	13,262.72	15,754.88	16,041.03	16,484.72	17,056.89
D. Waste water treatment and discharge									
E. Other	702.83	702.83	686.45	698.90	680.75	701.91	667.83	640.47	655.23
6. Other (as specified in the summary table in CRF)									
Memo items:									
International bunkers	30,648.25	30,648.25	32,396.42	32,756.82	34,704.57	35,873.60	37,918.27	30,844.20	35,283.04
Aviation	13,189.32	13,189.32	13,919.12	14,216.76	13,856.19	15,066.49	16,922.99	18,441.91	19,134.37
Navigation	17,458.93	17,458.93	18,477.30	18,540.06	20,848.38	20,807.11	20,995.27	12,402.30	16,148.67
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO2 emissions from biomass	34,860.18	34,860.18	35,601.72	35,276.68	34,581.77	35,074.70	36,442.26	36,864.07	37,932.86
CO2 captured	NO	NO	NO	NO	NO	NO	NO	NO	NO
Long-term storage of C in waste disposal sites	NE	NE	NE	NE	NE	NE	NE	NE	NE
Indirect N2O									
Total CO2 equivalent emissions without land use, land-use change and forestry	1,157,164.5	1,157,164.5	1,165,634.6	1,175,768.6	1,168,886.5	1,230,224.7	1,243,848.8	1,256,698.0	1,254,568.1
Total CO2 equivalent emissions, including indirect CO2, without land use, land-use change and forestry	1,162,465.5 8	1,162,465.5 8	1,170,737.9 6	1,180,639.4 5	1,173,516.2 6	1,234,831.9 1	1,248,356.9 6	1,261,224.6 0	1,258,933.9 3
Total CO2 equivalent emissions, including indirect CO2, with land use, land-use change and forestry	1,098,728.4 6	1,098,728.4 6	1,099,037.6 5	1,105,802.4 1	1,095,689.1 0	1,157,812.8 0	1,170,307.2 8	1,177,984.7 7	1,173,836.1 2
Note: All footnotes for this table are given at the end of the table on sheet 6.									

Note: All footnotes for this table are given on sheet 3.

Table 1 (a)
Emission trends (CO₂)
(Sheet 2 of 3)

JPN_BR3_v2.0

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1. Energy	1,142,929.7	1,177,812.1	1,198,335.0	1,184,204.8	1,224,528.1	1,230,404.5	1,230,090.4	1,237,037.7	1,217,059.1	1,252,468.7
A. Fuel combustion (sectoral approach)	1,142,431.1	1,177,272.8	1,197,823.4	1,183,656.7	1,224,003.5	1,229,898.7	1,229,612.8	1,236,529.9	1,216,506.0	1,251,853.0
1. Energy industries	364,997.08	384,032.34	393,060.45	383,004.42	414,184.08	430,909.93	427,940.21	447,938.55	436,480.13	498,751.19
2. Manufacturing industries and construction	363,916.19	370,533.73	379,699.89	374,058.56	385,211.52	384,245.55	386,313.13	374,648.95	378,847.82	364,920.25
3. Transport	246,427.52	250,254.29	249,013.71	253,036.44	248,697.82	244,439.68	238,588.32	232,726.97	229,663.36	226,722.19
4. Other sectors	167,090.39	172,452.48	176,049.41	173,557.30	175,910.16	170,303.59	176,771.16	181,215.50	171,514.70	161,459.46
5. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
B. Fugitive emissions from fuels	498.62	539.32	511.56	548.17	524.57	505.76	477.66	507.77	553.11	615.64
1. Solid fuels	1.82	1.75	1.60	1.35	0.75	0.67	0.64	0.61	0.59	0.56
2. Oil and natural gas and other emissions from energy production	496.80	537.57	509.97	546.82	523.81	505.09	477.02	507.16	552.52	615.09
C. CO ₂ transport and storage	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE
2. Industrial processes	58,609.94	58,899.07	59,357.43	58,041.00	55,348.27	54,560.85	54,543.23	55,643.98	55,893.47	55,092.65
A. Mineral industry	43,847.70	43,563.77	43,899.42	42,956.00	40,469.08	40,133.74	39,808.97	41,219.73	41,192.26	40,200.22
B. Chemical industry	6,419.51	6,937.15	6,809.76	6,346.24	6,247.20	6,048.64	6,130.79	5,790.85	5,870.65	5,962.25
C. Metal industry	6,545.54	6,463.18	6,739.53	6,762.50	6,597.90	6,366.50	6,483.04	6,496.47	6,567.97	6,694.93
D. Non-energy products from fuels and solvent use	1,710.69	1,845.65	1,822.21	1,898.04	1,954.22	1,926.65	2,034.13	2,046.88	2,175.07	2,149.08
E. Electronic industry										
F. Product uses as ODS substitutes										
G. Other product manufacture and use										
H. Other	86.49	89.33	86.50	78.22	79.87	85.33	86.29	90.05	87.52	86.16
3. Agriculture	376.93	370.29	442.53	367.68	408.14	430.19	402.22	410.56	383.48	500.08
A. Enteric fermentation										
B. Manure management										
C. Rice cultivation										
D. Agricultural soils										
E. Prescribed burning of savannas										
F. Field burning of agricultural residues										
G. Liming	300.00	293.57	332.90	247.35	269.92	246.40	236.30	231.29	230.36	325.00
H. Urea application	76.93	76.73	109.63	120.34	138.22	183.79	165.92	179.27	153.12	175.08
I. Other carbon-containing fertilizers	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land Use, Land-Use Change and Forestry	-86,462.83	-87,007.92	-89,065.11	-89,074.68	-90,486.75	-100,322.37	-96,949.45	-91,794.30	-86,320.95	-82,946.08
A. Forest land	-90,963.33	-90,803.06	-90,642.49	-90,482.95	-90,322.35	-99,042.85	-98,528.07	-92,664.68	-86,812.74	-85,549.55
B. Cropland	3,174.33	2,091.38	123.01	49.12	173.04	-610.41	2,677.31	2,274.95	1,408.99	4,830.25
C. Grassland	19.30	-403.92	38.97	-258.72	-527.24	-1,219.45	-941.35	-1,025.53	-494.79	-930.61
D. Wetlands	420.53	396.18	370.20	336.11	82.48	54.56	49.03	41.64	34.65	46.95

E. Settlements	-185.39	-483.68	-772.49	-958.94	-1,516.14	-1,600.81	-1,611.19	-1,206.60	-1,103.66	-1,100.93
F. Other land	768.45	833.02	612.40	650.43	618.84	508.16	515.92	166.02	141.04	166.29
G. Harvested wood products	303.28	1,362.17	1,205.29	1,590.27	1,004.61	1,588.43	888.89	619.88	505.57	-408.47
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	17,695.35	17,493.48	17,642.14	16,390.02	15,770.11	15,707.40	15,154.23	14,600.90	13,762.93	13,651.98
A. Solid waste disposal	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE
B. Biological treatment of solid waste										
C. Incineration and open burning of waste	17,086.23	16,840.90	16,986.23	15,759.49	15,193.07	15,190.87	14,647.53	14,094.09	13,240.57	13,090.78
D. Waste water treatment and discharge										
E. Other	609.12	652.58	655.91	630.53	577.05	516.53	506.70	506.81	522.36	561.20
6. Other (as specified in the summary table in CRF)										
Memo items:										
International bunkers	37,151.91	35,832.05	36,274.76	33,191.18	36,273.50	37,066.48	38,595.40	40,883.54	38,383.50	36,650.20
Aviation	20,001.55	19,576.46	19,542.61	18,721.34	21,149.32	20,387.64	21,190.20	21,336.33	19,964.61	18,358.58
Navigation	17,150.36	16,255.59	16,732.15	14,469.83	15,124.18	16,678.84	17,405.20	19,547.22	18,418.88	18,291.61
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO2 emissions from biomass	36,642.46	37,795.17	39,626.44	38,229.16	40,150.13	42,091.65	42,247.08	45,966.63	46,513.75	47,218.37
CO2 captured	NO	NO	NO	NO	NO	NO	0.04	0.12	0.36	0.37
Long-term storage of C in waste disposal sites	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Indirect N2O										
Total CO2 equivalent emissions without land use, land-use change and forestry	1,219,612.0	1,254,575.0	1,275,777.1	1,259,003.5	1,296,054.6	1,301,102.9	1,300,190.1	1,307,693.1	1,287,099.0	1,321,713.4
Total CO2 equivalent emissions, including indirect CO2, without land use, land-use change and forestry	1,223,613.9	1,258,562.4	1,279,835.2	1,262,640.4	1,299,460.6	1,304,378.3	1,303,387.6	1,310,785.3	1,290,124.4	1,324,603.6
	5	7	9	6	9	9	2	2	7	0
Total CO2 equivalent emissions, including indirect CO2, with land use, land-use change and forestry	1,137,151.1	1,171,554.5	1,190,770.1	1,173,565.7	1,208,973.9	1,204,056.0	1,206,438.1	1,218,991.0	1,203,803.5	1,241,657.5
	3	5	8	8	4	2	7	1	1	1
Note: All footnotes for this table are given at the end of the table on sheet 6.										

Note: All footnotes for this table are given on sheet 3.

Table 1(a)
Emission trends (CO₂)
(Sheet 3 of 3)

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	2008
1. Energy	1,170,793.5
A. Fuel combustion (sectoral approach)	1,170,228.3
1. Energy industries	473,839.27
2. Manufacturing industries and construction	331,853.92
3. Transport	218,193.17
4. Other sectors	146,342.00
5. Other	NO
B. Fugitive emissions from fuels	565.17
1. Solid fuels	0.54

J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	2.92	2.92	2.79	2.66	3.57	3.25	2.80	3.72	3.97
A. Forest land	0.40	0.40	0.30	0.21	1.14	0.84	0.41	1.35	1.63
B. Cropland	2.43	2.43	2.40	2.37	2.34	2.32	2.29	2.27	2.26
C. Grassland	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
D. Wetlands	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE
E. Settlements	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Other land	NO	NO	NO	NO	NO	NO	NO	NO	NO
G. Harvested wood products									
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	491.65	491.65	485.95	484.11	476.36	469.45	458.21	447.55	435.58
A. Solid waste disposal	368.83	368.83	366.07	365.07	359.24	354.49	344.75	335.60	325.10
B. Biological treatment of solid waste	7.79	7.79	7.65	7.67	7.69	7.63	7.65	7.67	7.72
C. Incineration and open burning of waste	0.64	0.64	0.62	0.64	0.64	0.69	0.71	0.73	0.70
D. Waste water treatment and discharge	114.39	114.39	111.61	110.73	108.79	106.64	105.10	103.56	102.06
E. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
6. Other (as specified in the summary table in CRF)									
Total CH4 emissions without CH4 from LULUCF	1,768.92	1,768.92	1,719.53	1,752.49	1,588.94	1,724.56	1,665.52	1,616.39	1,587.40
Total CH4 emissions with CH4 from LULUCF	1,771.84	1,771.84	1,722.33	1,755.15	1,592.51	1,727.81	1,668.31	1,620.11	1,591.37
International bunkers	1.75	1.75	1.85	1.85	2.08	2.08	2.11	1.31	1.67
Aviation	0.09	0.09	0.10	0.10	0.10	0.11	0.12	0.13	0.14
Navigation	1.65	1.65	1.75	1.75	1.98	1.97	1.99	1.17	1.53
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO2 emissions from biomass									
CO2 captured									
Long-term storage of C in waste disposal sites									
Indirect N2O									
Indirect CO2 (3)									
Note: All footnotes for this table are given at the end of the table on sheet 6.									

Note: All footnotes for this table are given on sheet 3.

Table 1(b)

JPN_BR3_v2.0

Emission trends (CH₄)**(Sheet 2 of 3)**

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1. Energy	133.20	131.52	126.87	114.81	94.02	92.29	95.32	98.26	100.27	101.28
A. Fuel combustion (sectoral approach)	52.88	53.38	53.44	50.80	51.70	51.59	56.26	59.20	60.98	62.28
1. Energy industries	12.61	12.13	10.22	8.01	7.90	7.43	8.50	8.84	8.73	10.98
2. Manufacturing industries and construction	15.59	15.38	17.08	16.69	17.98	19.44	20.48	20.89	22.76	23.06
3. Transport	12.55	12.55	12.48	12.25	11.86	11.27	10.55	9.90	9.30	8.77
4. Other sectors	12.13	13.33	13.66	13.85	13.96	13.45	16.72	19.58	20.19	19.47
5. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
B. Fugitive emissions from fuels	80.31	78.14	73.43	64.01	42.32	40.70	39.06	39.06	39.30	39.00
1. Solid fuels	69.99	67.72	62.52	53.19	30.73	28.85	26.87	26.18	25.75	24.37
2. Oil and natural gas and other emissions from energy production	10.33	10.42	10.91	10.82	11.58	11.86	12.20	12.88	13.54	14.63
C. CO ₂ transport and storage										
2. Industrial processes	2.10	2.08	2.17	2.07	2.11	2.01	2.15	2.15	2.18	2.04
A. Mineral industry										
B. Chemical industry	1.34	1.31	1.37	1.32	1.32	1.22	1.34	1.35	1.37	1.21
C. Metal industry	0.77	0.77	0.80	0.75	0.79	0.79	0.81	0.80	0.82	0.82
D. Non-energy products from fuels and solvent use	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
E. Electronic industry										
F. Product uses as ODS substitutes										
G. Other product manufacture and use										
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. Agriculture	957.06	966.24	982.51	973.55	979.39	934.84	986.32	988.15	979.44	1,003.22
A. Enteric fermentation	359.96	357.62	353.57	354.73	351.51	346.93	339.01	337.63	338.43	339.04
B. Manure management	120.11	117.81	115.16	114.93	114.62	112.86	110.19	109.31	107.03	105.36
C. Rice cultivation	472.97	486.87	509.95	500.08	509.55	471.54	533.74	537.78	530.66	555.58
D. Agricultural soils	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	4.02	3.94	3.84	3.81	3.69	3.51	3.38	3.43	3.32	3.23
G. Liming										
H. Urea application										
I. Other carbon-containing fertilizers										
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	2.84	2.56	2.67	2.87	3.24	2.44	2.82	2.67	2.35	2.32

A. Forest land	0.51	0.25	0.37	0.59	0.97	0.19	0.57	0.43	0.12	0.10
B. Cropland	2.24	2.22	2.21	2.19	2.17	2.16	2.15	2.15	2.14	2.13
C. Grassland	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
D. Wetlands	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE	NO, NA, NE
E. Settlements	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Other land	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
G. Harvested wood products										
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	420.75	407.68	395.09	373.81	361.93	349.38	335.57	322.60	308.60	294.01
A. Solid waste disposal	312.43	300.52	289.42	277.34	265.23	252.89	240.35	228.12	215.32	203.19
B. Biological treatment of solid waste	7.68	7.71	7.76	7.82	9.90	11.64	12.00	13.58	13.98	13.50
C. Incineration and open burning of waste	0.69	0.67	0.63	0.60	0.93	0.80	0.73	0.68	0.63	0.58
D. Waste water treatment and discharge	99.95	98.78	97.27	88.06	85.88	84.05	82.49	80.22	78.67	76.74
E. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6. Other (as specified in the summary table in CRF)										
Total CH4 emissions without CH4 from LULUCF	1,513.11	1,507.53	1,506.64	1,464.24	1,437.46	1,378.53	1,419.36	1,411.17	1,390.50	1,400.54
Total CH4 emissions with CH4 from LULUCF	1,515.95	1,510.09	1,509.31	1,467.11	1,440.69	1,380.97	1,422.18	1,413.84	1,392.85	1,402.86
International bunkers	1.77	1.68	1.73	1.50	1.59	1.73	1.80	2.01	1.89	1.86
Aviation	0.14	0.14	0.14	0.13	0.15	0.14	0.15	0.15	0.14	0.13
Navigation	1.63	1.54	1.59	1.37	1.44	1.58	1.65	1.86	1.75	1.73
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO2 emissions from biomass										
CO2 captured										
Long-term storage of C in waste disposal sites										
Indirect N2O										
Indirect CO2 (3)										
Note: All footnotes for this table are given at the end of the table on sheet 6.										

Note: All footnotes for this table are given on sheet 3.

Table 1(b)
Emission trends (CH₄)
(Sheet 3 of 3)

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	<i>2008</i>
1. Energy	99.22
A. Fuel combustion (sectoral approach)	61.34
1. Energy industries	12.62
2. Manufacturing industries and construction	22.02
3. Transport	8.00
4. Other sectors	18.69
5. Other	NO
B. Fugitive emissions from fuels	37.87

Table 1(c)
Emission trends (N₂O)
 (Sheet 1 of 3)

JPN_BR3_v2.0

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ^a	1990	1991	1992	1993	1994	1995	1996	1997
	kt								
1. Energy	22.08	22.08	22.89	23.28	23.73	24.68	26.72	27.30	28.05
A. Fuel combustion (sectoral approach)	22.08	22.08	22.89	23.28	23.72	24.68	26.72	27.30	28.05
1. Energy industries	4.02	4.02	4.14	4.13	4.26	4.53	5.83	6.00	6.24
2. Manufacturing industries and construction	4.68	4.68	4.91	5.04	5.36	5.80	6.10	6.32	6.67
3. Transport	12.55	12.55	13.02	13.27	13.16	13.40	13.77	14.02	14.16
4. Other sectors	0.84	0.84	0.82	0.84	0.94	0.95	1.02	0.96	0.98
5. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
B. Fugitive emissions from fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Solid fuels	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE
2. Oil and natural gas and other emissions from energy production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C. CO ₂ transport and storage									
2. Industrial processes	33.26	33.26	31.65	31.54	30.64	34.26	33.94	37.31	39.33
A. Mineral industry									
B. Chemical industry	32.28	32.28	30.44	30.14	29.24	32.76	32.43	35.84	37.91
C. Metal industry	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Non-energy products from fuels and solvent use	IE	IE	IE	IE	IE	IE	IE	IE	IE
E. Electronic industry									
F. Product uses as ODS substitutes									
G. Other product manufacture and use	0.98	0.98	1.21	1.40	1.40	1.49	1.51	1.46	1.42
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. Agriculture	38.75	38.75	38.32	38.09	38.10	37.42	36.18	35.59	35.21
A. Enteric fermentation									
B. Manure management	14.26	14.26	14.36	14.31	14.08	13.78	13.55	13.39	13.31
C. Rice cultivation									
D. Agricultural soils	24.36	24.36	23.84	23.65	23.90	23.52	22.52	22.09	21.79
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	0.13	0.13	0.12	0.13	0.11	0.12	0.12	0.11	0.11
G. Liming									
H. Urea application									
I. Other carbon containing fertilizers									
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	0.70	0.70	0.69	0.69	0.69	0.68	0.67	0.67	0.66
A. Forest land	0.41	0.41	0.41	0.41	0.42	0.41	0.41	0.42	0.42

B. Cropland	0.11	0.11	0.10	0.10	0.10	0.10	0.09	0.08	0.08
C. Grassland	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D. Wetlands	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE
E. Settlements	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE
F. Other land	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03
G. Harvested wood products									
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	11.67	11.67	11.89	12.32	12.40	12.90	13.43	13.84	14.12
A. Solid waste disposal									
B. Biological treatment of solid waste	0.47	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.46
C. Incineration and open burning of waste	4.82	4.82	4.95	5.40	5.40	5.93	6.39	6.80	7.04
D. Waste water treatment and discharge	6.39	6.39	6.48	6.46	6.54	6.51	6.58	6.58	6.62
E. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
6. Other (as specified in the summary table in CRF)									
Total direct N2O emissions without N2O from LULUCF	105.76	105.76	104.76	105.23	104.87	109.26	110.27	114.03	116.71
Total direct N2O emissions with N2O from LULUCF	106.47	106.47	105.45	105.92	105.56	109.94	110.94	114.70	117.37
International bunkers	0.85	0.85	0.89	0.90	0.96	0.99	1.05	0.86	0.98
Aviation	0.37	0.37	0.39	0.40	0.39	0.43	0.48	0.52	0.54
Navigation	0.47	0.47	0.50	0.50	0.57	0.56	0.57	0.34	0.44
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO2 emissions from biomass									
CO2 captured									
Long-term storage of C in waste disposal sites									
Indirect N2O	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indirect CO2 (3)									
Note: All footnotes for this table are given at the end of the table on sheet 6.									

Note: All footnotes for this table are given on sheet 3.

Table 1(c)

JPN_BR3_v2.0

Emission trends (N₂O)**(Sheet 2 of 3)**

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1. Energy	27.53	27.98	28.11	28.14	27.29	26.38	25.59	25.58	24.84	24.69
A. Fuel combustion (sectoral approach)	27.53	27.98	28.10	28.14	27.29	26.38	25.59	25.58	24.84	24.69
1. Energy industries	6.31	6.64	6.90	7.53	7.38	7.45	7.45	8.19	8.14	8.35
2. Manufacturing industries and construction	6.35	6.49	6.68	6.65	6.77	6.71	6.78	6.74	6.70	6.85
3. Transport	13.83	13.76	13.41	12.86	12.03	11.16	10.23	9.45	8.85	8.39
4. Other sectors	1.04	1.10	1.11	1.10	1.11	1.06	1.13	1.19	1.15	1.10
5. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
B. Fugitive emissions from fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Solid fuels	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE	NO, NE
2. Oil and natural gas and other emissions from energy production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C. CO ₂ transport and storage										
2. Industrial processes	34.99	14.16	22.55	11.27	10.81	10.97	12.08	10.38	11.20	8.60
A. Mineral industry										
B. Chemical industry	33.66	12.86	21.30	10.02	9.55	9.69	10.86	9.15	9.88	7.48
C. Metal industry	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Non-energy products from fuels and solvent use	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
E. Electronic industry										
F. Product uses as ODS substitutes										
G. Other product manufacture and use	1.33	1.29	1.25	1.25	1.26	1.27	1.22	1.23	1.33	1.13
H. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3. Agriculture	34.75	34.46	34.62	34.09	34.19	34.20	33.87	33.94	34.13	35.47
A. Enteric fermentation										
B. Manure management	13.09	12.91	12.98	13.09	13.29	13.47	13.52	13.74	14.11	14.37
C. Rice cultivation										
D. Agricultural soils	21.56	21.45	21.55	20.90	20.80	20.63	20.26	20.11	19.94	21.01
E. Prescribed burning of savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field burning of agricultural residues	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.08
G. Liming										
H. Urea application										
I. Other carbon containing fertilizers										
J. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Land use, land-use change and forestry	0.65	0.64	0.63	0.63	0.63	0.61	0.61	0.60	0.59	0.59

A. Forest land	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
B. Cropland	0.08	0.07	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04
C. Grassland	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D. Wetlands	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE	NO, NA, NE, IE
E. Settlements	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE	NO, NA, IE
F. Other land	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
G. Harvested wood products										
H. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Waste	14.09	14.11	13.92	13.71	13.09	13.17	13.14	13.43	13.03	12.42
A. Solid waste disposal										
B. Biological treatment of solid waste	0.46	0.46	0.47	0.47	0.59	0.70	0.72	0.81	0.84	0.81
C. Incineration and open burning of waste	7.06	7.29	7.23	7.00	6.41	6.40	6.37	6.59	6.19	5.68
D. Waste water treatment and discharge	6.58	6.36	6.23	6.25	6.09	6.07	6.05	6.02	6.01	5.92
E. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6. Other (as specified in the summary table in CRF)										
Total direct N2O emissions without N2O from LULUCF	111.36	90.72	99.20	87.22	85.38	84.71	84.68	83.32	83.21	81.18
Total direct N2O emissions with N2O from LULUCF	112.01	91.36	99.83	87.85	86.01	85.32	85.29	83.92	83.80	81.76
International bunkers	1.03	0.99	1.01	0.92	1.01	1.03	1.07	1.13	1.07	1.02
Aviation	0.57	0.55	0.55	0.53	0.60	0.58	0.60	0.60	0.57	0.52
Navigation	0.47	0.44	0.45	0.39	0.41	0.45	0.47	0.53	0.50	0.50
Multilateral operations	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
CO2 emissions from biomass										
CO2 captured										
Long-term storage of C in waste disposal sites										
Indirect N2O	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indirect CO2 (3)										
Note: All footnotes for this table are given at the end of the table on sheet 6.										

Note: All footnotes for this table are given on sheet 3.

Table 1(c)
Emission trends (N₂O)
(Sheet 3 of 3)

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	<i>2008</i>
1. Energy	23.69
A. Fuel combustion (sectoral approach)	23.69
1. Energy industries	8.19
2. Manufacturing industries and construction	6.60
3. Transport	7.88
4. Other sectors	1.01
5. Other	NO
B. Fugitive emissions from fuels	0.00

SF ₆	0.56	0.56	0.62	0.69	0.69	0.66	0.72	0.75	0.64
NF ₃	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01

Note: All footnotes for this table are given on sheet 3.

Table 1(d)

JPN_BR3_v2.0

Emission trends (HFCs, PFCs and SF₆)

(Sheet 2 of 3)

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Emissions of HFCs and PFCs - (kt CO₂ equivalent)	40,310.58	37,486.34	34,725.11	29,340.99	25,435.83	25,082.57	21,637.56	21,405.18	23,625.84	24,624.04
Emissions of HFCs - (kt CO₂ equivalent)	23,742.10	24,368.28	22,852.00	19,462.52	16,236.39	16,228.36	12,420.92	12,781.83	14,627.06	16,707.19
HFC-23	1.18	1.21	1.06	0.80	0.52	0.43	0.09	0.04	0.06	0.02
HFC-32	0.00	0.01	0.02	0.05	0.08	0.14	0.21	0.30	0.39	0.49
HFC-41	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-43-10mee	NO, NE, IE	NO, NE, IE	NO, NE, IE	NO, NE, IE	NO, NE, IE	NO, NE, IE	NO, NE, IE	IE, NE, NO	NO, NE, IE	NO, NE, IE
HFC-125	0.00	0.01	0.02	0.05	0.08	0.14	0.22	0.31	0.40	0.50
HFC-134	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-134a	3.87	4.05	4.31	4.38	4.61	4.76	4.32	3.59	2.91	2.85
HFC-143	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-143a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
HFC-152	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-152a	NO	NO	0.02	0.08	0.16	0.40	0.84	1.22	1.41	1.44
HFC-161	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-227ea	0.00	0.00	0.00	0.01	0.01	0.02	0.04	0.05	0.04	0.04
HFC-236cb	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-236ea	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-236fa	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-245ca	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
HFC-245fa	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	0.19	0.48	0.67	0.85
HFC-365mfc	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	0.00	0.08	0.17	0.25	0.31
Unspecified mix of HFCs(4) - (kt CO ₂ equivalent)	763.92	705.37	899.09	1,141.08	1,510.75	2,356.16	3,542.91	4,826.92	6,722.74	8,786.08
CF ₄	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C ₂ F ₆	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C ₃ F ₈	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
C ₄ F ₁₀	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
c-C ₄ F ₈	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
C ₅ F ₁₂	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
C ₆ F ₁₄	NA, NO	NA, NO	NA, NO	NA, NO	0.00	0.00	0.00	0.00	0.00	0.00
C10F18	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
c-C3F6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Unspecified mix of PFCs(4) - (kt CO ₂ equivalent)	16,495.12	13,074.82	11,846.70	9,855.58	9,177.57	8,831.96	9,194.74	8,601.30	8,976.33	7,893.84

Unspecified mix of HFCs and PFCs - (kt CO2 equivalent)										
SF ₆	0.58	0.40	0.31	0.27	0.25	0.24	0.23	0.22	0.23	0.21
NF ₃	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.09	0.08	0.09

Note: All footnotes for this table are given on sheet 3.

Table 1(d)

Emission trends (HFCs, PFCs and SF₆)**(Sheet 3 of 3)**

<i>GREENHOUSE GAS SOURCE AND SINK CATEGORIES</i>	<i>2008</i>
Emissions of HFCs and PFCs - (kt CO2 equivalent)	25,028.33
Emissions of HFCs - (kt CO2 equivalent)	19,284.93
HFC-23	0.04
HFC-32	0.61
HFC-41	NO
HFC-43-10mee	NO, NE, IE
HFC-125	0.62
HFC-134	NO
HFC-134a	2.85
HFC-143	NO

Table 2(a)

JPN_BR3_v2.0

Description of quantified economy-wide emission reduction target: base year^a

<i>Party</i>	<i>Japan</i>	
Base year /base period	FY2005	
Emission reduction target	% of base year/base period	% of 1990 ^b
	3.80	
Period for reaching target	BY-2020	

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

^b Optional.

Table 2(b)

JPN_BR3_v2.0

**Description of quantified economy-wide emission reduction target:
gases and sectors covered^a**

<i>Gases covered</i>		<i>Base year for each gas (year):</i>
CO ₂		FY2005
CH ₄		FY2005
N ₂ O		FY2005
HFCs		CY2005
PFCs		CY2005
SF ₆		CY2005
NF ₃		CY2005
Other Gases (specify)		
Sectors covered ^b	Energy	Yes
	Transport ^f	Yes
	Industrial processes ^g	Yes
	Agriculture	Yes
	LULUCF	Yes

Table 2(c)

JPN_BR3_v2.0

Description of quantified economy-wide emission reduction target: global warming potential values (GWP)^a

<i>Gases</i>	<i>GWP values^b</i>
CO ₂	4th AR
CH ₄	4th AR
N ₂ O	4th AR
HFCs	4th AR
PFCs	4th AR
SF ₆	4th AR
NF ₃	4th AR
Other Gases (specify)	

Abbreviations : GWP = global warming potential

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

^b Please specify the reference for the GWP: Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) or the Fourth Assessment Report of the IPCC.

Table 2(d)

JPN_BR3_v2.0

Description of quantified economy-wide emission reduction target: approach to counting emissions and removals from the LULUCF sector^a

Role of LULUCF	LULUCF in base year level and target	Included
	Contribution of LULUCF is calculated using	Activity-based approach

Abbreviation : LULUCF = land use, land-use change and forestry.

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudge the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

Description of quantified economy-wide emission reduction target: market-based mechanisms under the Convention^a

<i>Market-based mechanisms under the Convention</i>	<i>Possible scale of contributions (estimated kt CO₂ eq)</i>
CERs	NE
ERUs	NE
AAUs ⁱ	NE
Carry-over units ^j	NE
Other mechanism units under the Convention (specify) ^d	

Abbreviations : AAU = assigned amount unit, CER = certified emission reduction, ERU = emission reduction unit.

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

^d As indicated in paragraph 5(e) of the guidelines contained in annex I of decision 2/CP.17 .

Description of quantified economy-wide emission reduction target: other market-based mechanisms^a

<i>Other market-based mechanisms</i>	<i>Possible scale of contributions</i>
<i>(Specify)</i>	<i>(estimated kt CO₂ eq)</i>
JCM	NE

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

Description of quantified economy-wide emission reduction target: any other information^{a,b}

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^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

^b This information could include information on the domestic legal status of the target or the total assigned amount of emission units for the period for reaching a target. Some of this information is presented in the narrative part of the biennial report.

Custom Footnotes

The exact emission reductions target of Japan is 3.8% or more of base year.

Table 3

Progress in achievement of the quantified economy-wide emission reduction target: information on mitigation actions and their effects

Name of mitigation action ^a	Sector(s) affected ^b	GHG(s) affected	Objective and/or activity affected	Type of instrument ^c	Status of implementation ^d	Brief description ^e	Start year of implementation	Implementing entity or entities	Estimate of mi
									cumulative
									2020
Steady implementation of Industry's action plans towards a low-carbon society and evaluation and verification of	Energy	CO2	Steady implementation of Industry's action plans towards a low-carbon society and evaluation and	Voluntary Agreement	Implemented	Individual industries set reduction targets and work to reduce the emission of greenhouse gases through the emission reduction measures by the improvement of energy efficiency, development and spread of low-carbon products and the transfer of technologies for	Since 1997 (Depends on a group)	METI	-
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of highly energy-efficient air conditioners	Budget/Subsidy Financing	Implemented	Promote the introduction and use of energy-efficient facilities and devices across industries. Try to spread the use of these devices by achieving targets for top-runner standards and providing support for their	2008	METI	480.00
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of industrial heat pump (Heating and drying)	Budget/Subsidy Financing	Implemented	as same above	2008	METI	150.00
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of industrial lighting devices	Budget/Subsidy Financing	Implemented	as same above	2008	METI	3,490.00
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of low-carbon industrial furnaces	Budget/Subsidy Financing	Implemented	as same above	2008	METI	22,810.00
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of industrial motors	Budget/Subsidy Financing	Implemented	as same above	2008	METI	3,760.00
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of highly energy-efficient boilers	Budget/Subsidy Financing	Implemented	as same above	2008	METI	2,306.00
Promotion of introduction of highly energy-efficient equipment and devices (cross industrial)*	Energy	CO2	Introduction of cogeneration systems	Budget/Subsidy Financing	Implemented	as same above	2008	METI	2,940.00

Table 3

Progress in achievement of the quantified economy-wide emission reduction target: information on mitigation actions and their effects

Name of mitigation action ^a	Sector(s) affected ^b	GHG(s) affected	Objective and/or activity affected	Type of instrument ^c	Status of implementation ^d	Brief description ^e	Start year of implementation	Implementing entity or entities	Estimate of mi
									cumulative
									2020
Promotion of introduction of highly energy-efficient equipment and devices (Iron and steel industry)*	Energy	CO2	Energy efficiency improvements of power demand facilities	Budget/Subsidy Financing Awareness rising	Implemented	Update and replace electricity-consuming facilities in ironworks with more energy-efficient facilities (e.g. replacement of oxygen plants with ones with higher efficiency, changing millmotor to AC systems, reduction of the power of air blowers and fan pumps, introduction of energy efficient lighting devices and updating motors and transformers)	2008	METI	800.00
Promotion of introduction of highly energy-efficient equipment and devices (Iron and steel industry)	Energy	CO2	Expanding the chemical recycling of waste plastics at ironworks	Budget/Subsidy Financing Awareness rising	Implemented	Reduce the use of coal by effectively using the waste plastics collected on the basis of the Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging (Act #112-1995) by decomposing them in coke	2008	METI	2,120.00
Promotion of introduction of highly energy-efficient equipment and devices (Iron and steel industry)	Energy	CO2	Introduction of next generation coke production technology	Budget/Subsidy Financing Awareness rising	Implemented	Reduce energy consumption from coke production by installing a pretreatment process for coal in coke production processes.	2008	METI	170.00
Promotion of introduction of highly energy-efficient equipment and devices (Iron and steel industry)	Energy	CO2	Improvement of power generation efficiency	Budget/Subsidy Financing Awareness rising	Implemented	Update power generating systems for private power generators and joint thermal power plants to more efficient facilities.	2008	METI	840.00
Promotion of introduction of highly energy-efficient equipment and devices (Iron and steel industry)	Energy	CO2	Enhancement of energy-efficient equipment	Budget/Subsidy Financing Awareness rising	Implemented	Increase systems to use waste heat, such as the top pressure recovery turbine (TRT) and Coke Dry Quenching(CDQ) and strengthen energy-conservation facilities.	2008	METI	990.00
Promotion of introduction of highly energy-efficient equipment and devices (Iron and steel industry)	Energy	CO2	Introduction of innovative steel processing (ferrocake)	Budget/Subsidy Financing Awareness rising	Implemented	Introduce innovative iron-making processes with using innovative coke alternative (ferrocake) .	2013	METI	-

Table 4

JPN_BR3_v2.0

Reporting on progress^{a, b}

<i>Year^c</i>	<i>Total emissions excluding LULUCF</i>	<i>Contribution from LULUCF^d</i>	<i>Quantity of units from market based mechanisms under the Convention</i>		<i>Quantity of units from other market based mechanisms</i>	
	<i>(kt CO₂ eq)</i>	<i>(kt CO₂ eq)</i>	<i>(number of units)</i>	<i>(kt CO₂ eq)</i>	<i>(number of units)</i>	<i>(kt CO₂ eq)</i>
Base year/period (FY2005)	1,398,823.62	NA	0.00	0.00	0.00	0.00
2010	1,306,045.28	NA	0.00	0.00	0.00	0.00
2011	1,355,578.63	NA	0.00	0.00	0.00	0.00
2012	1,391,203.02	NA	0.00	0.00	0.00	0.00
2013	1,409,037.65	-60,431.22	0.00	0.00	0.00	0.00
2014	1,364,040.64	-59,487.29	0.00	0.00	0.00	0.00
2015	1,324,717.74	-57,624.95	0.00	0.00	0.00	0.00
2016	NE	NE	0.00	0.00	0.00	0.00

Abbreviation : GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

Table 4(a)I

JPN_BR3_v2.0

Progress in achieving the quantified economy-wide emission reduction targets – further information on mitigation actions relevant to the contribution of the land use, land-use change and forestry sector in 2015 ^{a,b}

	<i>Net GHG emissions/removals from LULUCF categories ^c</i>	<i>Base year/period or reference level value ^d</i>	<i>Contribution from LULUCF for reported year</i>	<i>Cumulative contribution from LULUCF ^e</i>	<i>Accounting approach ^f</i>
	<i>(kt CO₂ eq)</i>				
Total LULUCF					Activity-based approach
A. Forest land					Activity-based approach
1. Forest land remaining forest land					Activity-based approach
2. Land converted to forest land					Activity-based approach
3. Other ^g					Activity-based approach
B. Cropland					Activity-based approach
1. Cropland remaining cropland					Activity-based approach
2. Land converted to cropland					Activity-based approach
3. Other ^g					Activity-based approach
C. Grassland					Activity-based approach
1. Grassland remaining grassland					Activity-based approach
2. Land converted to grassland					Activity-based approach
3. Other ^g					Activity-based approach
D. Wetlands					Activity-based approach
1. Wetland remaining wetland					Activity-based approach
2. Land converted to wetland					Activity-based approach
3. Other ^g					Activity-based approach

E. Settlements					Activity-based approach
1. Settlements remaining settlements					Activity-based approach
2. Land converted to settlements					Activity-based approach
3. Other ^g					Activity-based approach
F. Other land					Activity-based approach
1. Other land remaining other land					Activity-based approach
2. Land converted to other land					Activity-based approach
3. Other ^g					Activity-based approach
G. Other					Activity-based approach
Harvested wood products					Activity-based approach

Abbreviations : GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

^b Parties that use the LULUCF approach that is based on table 1 do not need to complete this table, but should indicate the approach in table 2. Parties should fill in a separate table for each year, namely 2011 and 2012, where 2014 is the reporting year.

^c For each category, enter the net emissions or removals reported in the most recent inventory submission for the corresponding inventory year. If a category differs from that used for the reporting under the Convention or its Kyoto Protocol, explain in the biennial report how the value was derived.

^d Enter one reference level or base year/period value for each category. Explain in the biennial report how these values have been calculated.

^e If applicable to the accounting approach chosen. Explain in this biennial report to which years or period the cumulative contribution refers to.

^f Label each accounting approach and indicate where additional information is provided within this biennial report explaining how it was implemented, including all relevant accounting parameters (i.e. natural disturbances, caps).

^g Specify what was used for the category “other”. Explain in this biennial report how each was defined and how it relates to the categories used for reporting under the Convention or its Kyoto Protocol.

Custom Footnotes

Table 4(a)I

JPN_BR3_v2.0

Progress in achieving the quantified economy-wide emission reduction targets – further information on mitigation actions relevant to the contribution of the land use, land-use change and forestry sector in 2016^{a, b}

	<i>Net GHG emissions/removals from LULUCF categories^c</i>	<i>Base year/period or reference level value^d</i>	<i>Contribution from LULUCF for reported year</i>	<i>Cumulative contribution from LULUCF^e</i>	<i>Accounting approach^f</i>
	<i>(kt CO₂ eq)</i>				
Total LULUCF					Activity-based approach
A. Forest land					Activity-based approach
1. Forest land remaining forest land					Activity-based approach
2. Land converted to forest land					Activity-based approach
3. Other ^g					Activity-based approach
B. Cropland					Activity-based approach
1. Cropland remaining cropland					Activity-based approach
2. Land converted to cropland					Activity-based approach
3. Other ^g					Activity-based approach
C. Grassland					Activity-based approach
1. Grassland remaining grassland					Activity-based approach
2. Land converted to grassland					Activity-based approach
3. Other ^g					Activity-based approach
D. Wetlands					Activity-based approach

Table 4(a)II

JPN_BR3_v2.0

Source: Submission 2018 v1, JAPAN

Progress in achievement of the quantified economy-wide emission reduction targets – further information on mitigation actions relevant to the counting of emissions and removals from the land use, land-use change and forestry sector in relation to activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol^{a,b,c}

GREENHOUSE GAS SOURCE AND SINK ACTIVITIES	Base year ^d	Net emissions/removals ^e										Accounting parameters ^h	Accounting quantity ⁱ
		2013	2014	2015	2016	2017	2018	2019	2020	Total ^f			
		(kt CO ₂ eq)											
A. Article 3.3 activities													
A.1. Afforestation/reforestation		-1,426.68	-1,420.71	-1,417.31							-4,264.70		-4264.70
Excluded emissions from natural disturbances(5)		NA	NA	NA							NA		NA
Excluded subsequent removals from land subject to natural disturbances(6)		NA	NA	NA							NA		NA
A.2. Deforestation		1,459.29	2,104.35	1,802.85							5,366.50		5366.50
B. Article 3.4 activities													
B.1. Forest management													
Net emissions/removals		-51,478.48	-52,073.28	-49,362.62							-152,914.38		-156298.01
Excluded emissions from natural disturbances(5)		NA	NA	NA							NA		NA
Excluded subsequent removals from land subject to natural disturbances(6)		NA	NA	NA							NA		NA
Any debits from newly established forest (CEF-ne)(7),(8)		NA	NA	NA							NA		NA
Forest management reference level (FMRL)(9)												0.00	
Technical corrections to FMRL(10)												1127.88	
Forest management cap ^j													
B.2. Cropland management (if elected)	10257.97	3,543.05	4,272.82	3,876.27							11,692.14		-19081.78
B.3. Grazing land management (if elected)	842.39	-284.35	-107.95	-240.55							-632.85		-3160.02
B.4. Revegetation (if elected)	-78.98	-1,222.66	-1,241.14	-1,262.20							-3,726.01		-3489.08
B.5. Wetland drainage and rewetting (if elected)	NA	NA	NA	NA							NA		NA

Note: 1 kt CO₂ eq equals 1 Gg CO₂ eq.

Abbreviations: CRF = common reporting format, LULUCF = land use, land-use change and forestry.

^a Reporting by a developed country Party on the information specified in the common tabular format does not prejudice the position of other Parties with regard to the treatment of units from market-based mechanisms under the Convention or other market-based mechanisms towards achievement of quantified economy-wide emission reduction targets.

^b Developed country Parties with a quantified economy-wide emission reduction target as communicated to the secretariat and contained in document FCCC/SB/2011/INF.1/Rev.1 or any update to that document, that are Parties to the Kyoto Protocol, may use table 4(a)II for reporting of accounting quantities if LULUCF is contributing to the attainment of that target.

^c Parties can include references to the relevant parts of the national inventory report, where accounting methodologies regarding LULUCF are further described in the documentation box or in the biennial

^d Net emissions and removals in the Party's base year, as established by decision 9/CP.2.

^e All values are reported in the information table on accounting for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, of the CRF for the relevant inventory year as reported in the current submission and are automatically entered in this table.

^f Additional columns for relevant years should be added, if applicable.

^g Cumulative net emissions and removals for all years of the commitment period reported in the current submission.

^h The values in the cells "3.3 offset" and "Forest management cap" are absolute values.

ⁱ The accounting quantity is the total quantity of units to be added to or subtracted from a Party's assigned amount for a particular activity in accordance with the provisions of Article 7, paragraph 4, of the Kyoto Protocol.

^j In accordance with paragraph 4 of the annex to decision 16/CMP.1, debits resulting from harvesting during the first commitment period following afforestation and reforestation since 1990 shall not be greater than the credits accounted for on that unit of land.

^k In accordance with paragraph 10 of the annex to decision 16/CMP.1, for the first commitment period a Party included in Annex I that incurs a net source of emissions under the provisions of Article 3 paragraph 3, may account for anthropogenic greenhouse gas emissions by sources and removals by sinks in areas under forest management under Article 3, paragraph 4, up to a level that is equal to the net source of emissions under the provisions of Article 3, paragraph 3, but not greater than 9.0 megatonnes of carbon times five, if the total anthropogenic greenhouse gas emissions by sources and removals by sinks in the managed forest since 1990 is equal to, or larger than, the net source of emissions incurred under Article 3, paragraph 3.

¹ In accordance with paragraph 11 of the annex to decision 16/CMP.1, for the first commitment period of the Kyoto Protocol only, additions to and subtractions from the assigned amount of a Party resulting from Forest management under Article 3, paragraph 4, after the application of paragraph 10 of the annex to decision 16/CMP.1 and resulting from forest management project activities undertaken under Article 6, shall not exceed the value inscribed in the appendix of the annex to decision 16/CMP.1, times five.

Custom Footnotes

Documentation Box:




Table 4(b)

JPN_BR3_v2.0

Reporting on progress^{a, b, c}

Units of market based mechanisms			Year	
			2015	2016
Kyoto Protocol units ^d	Kyoto Protocol units	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
	AAUs	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
	ERUs	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
	CERs	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
	tCERs	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
	ICERs	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
Other units ^{d,e}	Units from market-based mechanisms under the Convention	(number of units)		
		(kt CO ₂ eq)		
	Units from other market-based mechanisms	(number of units)	0	0
		(kt CO ₂ eq)	0.00	0.00
	JCM	(number of units)	0	0
(kt CO ₂ eq)		0.00	0.00	
Total	(number of units)	0	0	
	(kt CO ₂ eq)	0.00	0.00	

Abbreviations : AAUs = assigned amount units, CERs = certified emission reductions, ERUs = emission reduction units, ICERs = long-term certified emission reductions, tCERs = temporary certified emission reductions.

Note: 2011 is the latest reporting year.

Table 5

Summary of key variables and assumptions used in the project

<i>Key underlying assumptions</i>			
<i>Assumption</i>	<i>Unit</i>	<i>1990</i>	<i>1995</i>
<i>real GDP</i>	<i>trillion(2005)yen</i>		
population	thousands	123,611.00	
household	thousands	40,670.00	
crude steel production	10 ⁶ t	112.00	
cement production	10 ⁶ t	87.00	
ethylene production	10 ⁶ t	6.00	
paper and paperboard production	10 ⁶ t	29.00	
<i>Commercial floor area</i>	<i>10⁶m²</i>		

Table 6(a)

JPN_BR3_v2.0

Information on updated greenhouse gas projections under a 'with measures' scenario^a

	<i>GHG emissions and removals^b</i>							GHG emission projections	
	<i>(kt CO₂ eq)</i>							<i>(kt CO₂ eq)</i>	
	<i>Base year (FY2005)</i>	1990	1995	2000	2005	2010	2015	2020	2030
Sector^{d,e}									
Energy	1,009,693.34	887,029.05	927,209.22	956,559.13	1,011,324.6	947,165.71	967,837.99	1,053,578.3	784,200.00
Transport	235,977.66	204,245.55	244,866.29	253,322.94	235,791.69	217,696.14	206,810.43	194,840.61	165,500.00
Industry/industrial processes	84,728.60	110,451.48	136,418.29	108,173.62	86,721.16	80,158.47	93,020.28	93,001.43	74,800.00
Agriculture	40,015.02	37,635.95	37,158.50	35,322.91	35,227.10	35,885.72	33,666.91	38,723.08	37,500.00
Forestry/LULUCF	-89,643.58	-63,455.06	-77,779.64	-88,809.20	-91,547.81	-70,091.39	-60,939.88	-36,404.03	-25,900.00
Waste management/waste	26,095.94	28,897.43	32,166.79	31,668.20	26,666.91	22,796.30	21,232.21	19,321.96	17,300.00
Other (specify)									
Gas									
CO ₂ emissions including net CO ₂ from LULUCF	1,214,416.17	1,093,427.3	1,165,799.1	1,186,712.0	1,215,898.8	1,144,690.1	1,164,070.0	1,261,710.5	971,600.00
CO ₂ emissions excluding net CO ₂ from LULUCF	1,304,375.96	1,157,164.5	1,243,848.8	1,275,777.1	1,307,693.1	1,215,010.7	1,225,239.4	1,298,375.2	997,800.00
CH ₄ emissions including CH ₄ from LULUCF	39,029.18	44,296.05	41,707.78	37,732.72	35,346.11	34,914.69	31,354.31	33,988.76	31,700.00
CH ₄ emissions excluding CH ₄ from LULUCF	38,962.32	44,223.07	41,637.89	37,666.02	35,279.25	34,855.00	31,294.94	33,932.91	31,600.00
N ₂ O emissions including N ₂ O from LULUCF	25,760.31	31,726.66	33,060.74	29,750.62	25,008.76	22,487.68	20,999.79	21,762.11	21,300.00
N ₂ O emissions excluding N ₂ O from LULUCF	25,510.95	31,517.58	32,860.59	29,561.41	24,829.11	22,318.20	20,829.59	21,557.28	21,100.00
HFCs	12,724.24	15,932.31	25,213.19	22,852.00	12,781.83	23,305.23	39,202.80	38,300.00	21,600.00
PFCs	8,623.35	6,539.30	17,609.92	11,873.11	8,623.35	4,249.54	3,308.10	4,000.00	4,200.00
SF ₆	5,063.86	12,850.07	16,447.52	7,031.36	5,053.01	2,423.87	2,121.86	2,400.00	2,700.00
NF ₃	1,249.87	32.61	201.09	285.77	1,471.75	1,539.74	571.03	1,000.00	500.00

Table 7

JPN_BR3_v2.0

Provision of public financial support: summary information in 2015^a

Allocation channels	Year									
	Japanese yen - JPY					USD ^b				
	Core/ general ^{c,1}	Climate-specific ^{d,2}				Core/ general ^{c,1}	Climate-specific ^{d,2}			
		Mitigation	Adaptation	Cross-cutting ^e	Other ^f		Mitigation	Adaptation	Cross-cutting ^e	Other ^f
Total contributions through multilateral channels:	247,676.99	2,576.51	84.09	11,411.53		2,155.22	22.42	0.73	99.40	
Multilateral climate change funds ^g	15,000.00	2,576.51	84.09	10,719.97		130.53	22.42	0.73	93.38	
Other multilateral climate change funds ^h	NE	2,576.51	84.09	273.42		NE	22.42	0.73	2.38	
Multilateral financial institutions, including regional development banks	196,780.76			NE		1,712.33			NE	
Specialized United Nations bodies	35,896.23			691.56		312.36			6.02	
Total contributions through bilateral, regional and other channels		860,218.00	120,838.00	34,649.00			7,485.36	1,051.50	301.51	
Total	247,676.99	862,794.51	120,922.09	46,060.53		2,155.22	7,507.78	1,052.23	400.91	

Note: Explanation of numerical footnotes is provided in the documentation box after tables 7, 7(a) and 7(b).

Abbreviation: USD = United States dollars.

^a Parties should fill in a separate table for each year, namely 2015 and 2016, where 2018 is the reporting year.

^b Parties should provide an explanation of the methodology used for currency exchange for the information provided in tables 7, 7(a) and 7(b) in the documentation box.

^c This refers to support to multilateral institutions that Parties cannot specify as being climate-specific.

^d Parties should explain in their biennial reports how they define funds as being climate-specific.

^e This refers to funding for activities that are cross-cutting across mitigation and adaptation.

^f Please specify.

^g Multilateral climate change funds listed in paragraph 17(a) of the “UNFCCC biennial reporting guidelines for developed country Parties” in decision 2/CP.17.

^h Other multilateral climate change funds as referred in paragraph 17(b) of the “UNFCCC biennial reporting guidelines for developed country Parties” in decision 2/CP.17.

Custom Footnotes**Documentation Box:**

1: Core/general

The unit of JPY is "million yen" and the unit of USD is "million dollars".
The exchange rate is 114.92 JPY/USD.

2: Climate-specific

The unit of JPY is "million yen" and the unit of USD is "million dollars".
The exchange rate is 114.92 JPY/USD.

3: Status

4: Funding source

5: Financial instrument

6: Type of support

7: Sector

Each Party shall provide an indication of what new and additional financial resources they have provided, and clarify how they have determined that such resources are new and additional. Please provide this information in relation to table 7(a) and (b).

Japan defines new and additional climate finance as newly committed or disbursed finance which contributes to climate change measures in developing countries. Japan seeks new funding from the Diet on annual basis. Climate finance reported by Japan is newly committed or disbursed finance during a given period. In other words, we do not include previously committed or disbursed climate finance.

Table 7

JPN_BR3_v2.0

Provision of public financial support: summary information in 2016^a

Allocation channels	Year									
	Japanese yen - JPY					USD ^b				
	Core/ general ^{c,1}	Climate-specific ^{d,2}				Core/ general ^{c,1}	Climate-specific ^{d,2}			
		Mitigation	Adaptation	Cross-cutting ^e	Other ^f		Mitigation	Adaptation	Cross-cutting ^e	Other ^f
Total contributions through multilateral channels:	249,982.13	2,576.51	174.59	18,851.55		2,175.28	22.42	1.52	164.06	
Multilateral climate change funds ^g	15,000.00	2,576.51	174.59	18,418.12		130.53	22.42	1.52	160.29	
Other multilateral climate change funds ^h	NE	2,576.51	79.02	249.07		NE	22.42	0.69	2.18	
Multilateral financial institutions, including regional development banks	197,595.73			NE		1,719.42			NE	
Specialized United Nations bodies	37,386.40			433.43		325.33			3.77	
Total contributions through bilateral, regional and other channels		1,137,860.00	63,650.00	27,851.00			9,901.31	553.85	242.36	
Total	249,982.13	1,140,436.50	63,824.59	46,702.55		2,175.28	9,923.73	555.37	406.42	

Note: Explanation of numerical footnotes is provided in the documentation box after tables 7, 7(a) and 7(b).

Abbreviation: USD = United States dollars.

^a Parties should fill in a separate table for each year, namely 2015 and 2016, where 2018 is the reporting year.

^b Parties should provide an explanation of the methodology used for currency exchange for the information provided in tables 7, 7(a) and 7(b) in the documentation box.

^c This refers to support to multilateral institutions that Parties cannot specify as being climate-specific.

^d Parties should explain in their biennial reports how they define funds as being climate-specific.

^e This refers to funding for activities that are cross-cutting across mitigation and adaptation.

^f Please specify.

^g Multilateral climate change funds listed in paragraph 17(a) of the “UNFCCC biennial reporting guidelines for developed country Parties” in decision 2/CP.17.

^h Other multilateral climate change funds as referred in paragraph 17(b) of the “UNFCCC biennial reporting guidelines for developed country Parties” in decision 2/CP.17.

Custom Footnotes**Documentation Box:**

1: Core/general

The unit of JPY is "million yen" and the unit of USD is "million dollars".
The exchange rate is 114.92 JPY/USD.

2: Climate-specific

The unit of JPY is "million yen" and the unit of USD is "million dollars".
The exchange rate is 114.92 JPY/USD.

3: Status

4: Funding source

5: Financial instrument

6: Type of support

7: Sector

Each Party shall provide an indication of what new and additional financial resources they have provided, and clarify how they have determined that such resources are new and additional. Please provide this information in relation to table 7(a) and (b).

Japan defines new and additional climate finance as newly committed or disbursed finance which contributes to climate change measures in developing countries. Japan seeks new funding from the Diet on annual basis. Climate finance reported by Japan is newly committed or disbursed finance during a given period. In other words, we do not include previously committed or disbursed climate finance.

Table 7(a)

JPN BR3 v2.0

Provision of public financial support: contribution through multilateral channels in 2015^a

Donor funding	Total amount				Status ^{b,3}	Funding source ^{f,4}	Financial instrument ^{f,5}	Type of support ^{f,g,6}	Sector ^{c,f,7}
	Core/general ^{d,1}		Climate-specific ^{e,2}						
	Japanese yen - JPY	USD	Japanese yen - JPY	USD					
Total contributions through multilateral channels	247,676.99	2,155.22	14,072.13	122.55					
Multilateral climate change funds	15,000.00	130.53	13,380.57	116.53					
1. Global Environment Facility	15,000.00	130.53	NE	NE	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
2. Least Developed Countries Fund									
3. Special Climate Change Fund									
4. Adaptation Fund									
5. Green Climate Fund	NE	NE	10,319.92	89.90	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
6. UNFCCC Trust Fund for Supplementary Activities	NE	NE	126.63	1.10	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
7. Other multilateral climate change funds	NE	NE	2,934.02	25.53					
(1) The Multilateral Fund for the Implementation of the Montreal	NE	NE	2,515.96	21.89	Disbursed	ODA	Grant	Mitigation	Cross-cutting
(2) Vienna Convention and the Montreal Protocol	NE	NE	60.55	0.53	Disbursed	ODA	Grant	Mitigation	Cross-cutting
(3) Asia Pacific Adaptation Network(APAN) and Global Adaptation Network(GAN)	NE	NE	84.09	0.73	Disbursed	ODA	Grant	Adaptation	Cross-cutting
(4) Asia-Pacific Network for Global Change Research(APN)	NE	NE	273.42	2.38	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
Multilateral financial institutions, including regional development banks	196,780.76	1,712.33	NE	NE					
1. World Bank	15,021.46	130.71	NE	NE	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting

Table 7(a)

Provision of public financial support: contribution through multilateral channels in 2016^a

Donor funding	Total amount				Status ^{b,3}	Funding source ^{f,4}	Financial instrument ^{f,5}	Type of support ^{f,6}	Sector ^{c,f,7}
	Core/general ^{d,1}		Climate-specific ^{e,2}						
	Japanese yen - JPY	USD	Japanese yen - JPY	USD					
Total contributions through multilateral channels	249,982.13	2,175.28	21,602.65	188.00					
Multilateral climate change funds	15,000.00	130.53	21,169.22	184.23					
1. Global Environment Facility	15,000.00	130.53	NE	NE	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
2. Least Developed Countries Fund	NE	NE	95.57	0.83	Disbursed	ODA	Grant	Adaptation	Cross-cutting
3. Special Climate Change Fund									
4. Adaptation Fund									
5. Green Climate Fund	NE	NE	18,021.35	156.82	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
6. UNFCCC Trust Fund for Supplementary Activities	NE	NE	147.70	1.29	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
7. Other multilateral climate change funds	NE	NE	2,904.60	25.29					
(1) The Multilateral Fund for the Implementation of the Montreal	NE	NE	2,515.96	21.89	Disbursed	ODA	Grant	Mitigation	Cross-cutting
(2) Vienna Convention and the Montreal Protocol	NE	NE	60.55	0.53	Disbursed	ODA	Grant	Mitigation	Cross-cutting
(3) Asia Pacific Adaptation Network(APAN) and Global Adaptation Network(GAN)	NE	NE	79.02	0.69	Disbursed	ODA	Grant	Adaptation	Cross-cutting
(4) Asia-Pacific Network for Global Change Research(APN)	NE	NE	249.07	2.18	Disbursed	ODA	Grant	Cross-cutting	Cross-cutting
Multilateral financial institutions, including regional development banks	197,595.73	1,719.42	NE	NE					

Table 7(b)

JPN_BR3_v2.0

Provision of public financial support: contribution through bilateral, regional and other channels in 2015^a

Recipient country/ region/project/programme ^b	Total amount		Status ^{c, 3}	Funding source ^{g, 4}	Financial instrument ^{g, 5}	Type of support ^{g, h, 6}	Sector ^{d, g, 7}	Additional information ^e
	Climate-specific ^{f, 2}							
	Japanese yen - JPY	USD						
Total contributions through bilateral, regional and other channels	1,015,705.0 0	8,838.37						
Afganistan /	2,687.00	23.38	Committed, Disbursed	ODA	Grant	Adaptation	Prevention and resoration of disaster.	
Afcanistan, Kyrgyzstan, Tajikistan	596.00	5.19	Committed	ODA	Grant	Adaptation	Agriculture	
Antigua and Barbuda /	584.00	5.08	Committed	ODA	Grant	Mitigation	Fishing	
Antigua and Barbuda /	100.00	0.87	Disbursed	ODA	Grant	Adaptation	Prevention and resoration of	
Africa /	23.00	0.20	Disbursed	ODA	Grant	Mitigation	Energy, Forestry	
Asia /	2,221.00	19.33	Committed, Disbursed	ODA,OOF	Grant	Mitigation	Cross- cutting	
Asia /	36.00	0.31	Committed	ODA	Grant	Cross-cutting	Forestry	
Asia, Pacific /	64.00	0.56	Disbursed	ODA,OOF	Grant	Adaptation	Cross-	
Asia, Pacific /	5,179.00	45.07	Disbursed	OOF	Grant	Mitigation	Cross- cutting,	
Bangladesh /	45,284.00	394.05	Committed	ODA,OOF	Grant, Concessional loan	Mitigation	Energy, Transport, Water and sanitation, Cross-	
Bangladesh /	44,351.00	385.93	Committed, Disbursed	ODA,OOF	Grant, Concessional loan	Adaptation	Prevention and resoration of	
Bhutan /	1,956.00	17.02	Committed	ODA	Grant	Adaptation	Prevention and resoration of	
Bolivia /	50.00	0.44	Committed	ODA	Grant	Adaptation	Prevention and resoration of	

Table 7(b)

JPN_BR3_v2.0

Provision of public financial support: contribution through bilateral, regional and other channels in 2015^a

<i>Recipient country/ region/project/programme^b</i>	<i>Total amount</i>		<i>Status^{c, 3}</i>	<i>Funding source^{g, 4}</i>	<i>Financial instrument^{g, 5}</i>	<i>Type of support^{g, h, 6}</i>	<i>Sector^{d, g, 7}</i>	<i>Additional information^e</i>
	<i>Climate-specific^{f, 2}</i>							
	<i>Japanese yen - JPY</i>	<i>USD</i>						
Brazil /	15,125.00	131.61	Committed, Disbursed	OOF	Non- Concessional loan	Mitigation	Energy	

Table 7(b)

JPN_BR3_v2.0

Provision of public financial support: contribution through bilateral, regional and other channels in 2016^a

Recipient country/ region/project/programme ^b	Total amount		Status ^{c, 3}	Funding source ^{g, 4}	Financial instrument ^{g, 5}	Type of support ^{g, h, 6}	Sector ^{d, g, 7}	Additional information ^e
	Climate-specific ^{f, 2}							
	Japanese yen - JPY	USD						
Total contributions through bilateral, regional and other channels	1,229,361.0 0	10,697.52						
Afganistan /	47.00	0.41	Disbursed	ODA	Grant	Adaptation	Prevention and resoration of	
Africa /	333.00	2.90	Committed, Disbursed	ODA	Grant, Equity	Mitigation	Energy	
Asia /	1,260.00	10.96	Disbursed	OOF	Grant	Mitigation	Cross-	
Asia Pacific /	35.00	0.30	Disbursed	OOF	Grant	Adaptation	Cross-	
Asia Pacific /	16.00	0.14	Disbursed	OOF	Grant	Cross-cutting	Cross-	
Bahamas /	200.00	1.74	Disbursed	ODA	Grant	Adaptation	Prevention and resoration of	
Bangladesh /	97,059.00	844.58	Committed, Disbursed	ODA, OOF	Concessional Loan, Non- Concessional Loan	Mitigation	Energy, Water and sanitation	
Bangladesh /	16,996.00	147.89	Committed	ODA	Concessional Loan	Adaptation	Prevention and resoration of	
Barbados /	100.00	0.87	Disbursed	ODA	Grant	Adaptation	Prevention and resoration of	
Benin /	60.00	0.52	Disbursed	OOF	Grant	Mitigation	Forestry	
Bolivia /	61,485.00	535.02	Committed	ODA	Concessional Loan	Mitigation	Energy	
Cambodia, Myanmar, Peru /	70.00	0.61	Committed	OOF	Grant	Cross-cutting	Forestry	
Cambodia /	2,325.00	20.23	Committed, Disbursed	ODA, OOF	Grant, Other	Mitigation	Transport, Energy, Cross-	
Cambodia /	8.00	0.07	Disbursed	OOF	Grant	Adaptation	Forestry	

Table 8

Provision of technology development and transfer support^{a,b}

<i>Recipient country and/or region</i>	<i>Targeted area</i>	<i>Measures and activities related to technology transfer</i>	<i>Sector^c</i>	<i>Source of the funding for technology transfer</i>	<i>Activities undertaken by</i>	<i>Status</i>	<i>Additional information^d</i>
Cambodia	Mitigation and Adaptation	Project for Facilitating the Implementation of REDD+ Strategy and Policy	Agriculture	Public	Public	Implemented	
Cambodia, Laos	Adaptation	Study for rural disaster prevention plan in research projects on global environment problem in agriculture and rural villages	Disaster prevention	Public	Private and Public	Implemented	
Cambodia, Myanmar	Mitigation and Adaptation	Project to accelerate REDD-plus activities by private sector	Forestry	Public	Private and Public	Implemented	
India	Mitigation	Study for Sophistication of efficiency management of thermal power plants (Implementation of real-time unit performance management system)	Energy	Public	Private and Public	Planned	
Indonesia	Mitigation	Application of a Tribrid System to Base Transceiver Stations	Industry	Public	Private and Public	Implemented	
Indonesia	Mitigation	Study for CCUS (CO ₂ -EOR) projects development in the South Sumatra region on the Republic of Indonesia under Joint Crediting	Energy	Public	Private and Public	Planned	
Indonesia, Philippine, Uzbekistan, Botswana, Colombia	Mitigation and Adaptation	Project for promoting sustainable forest management in developing countries	Forestry	Public	Private and Public	Planned	
Lao PDR	Mitigation	Sustainable Forest Management and REDD+ Support Project	Forestry	Public	Public	Implemented	
Laos	Mitigation	FY2015 JCM Feasibility Study (Programme for the Establishment of Low-Carbon Historic City in Vientiane, based on City-to-City Cooperation between Vientiane Capital and	Cross-cutting	Public	Public	Implemented	

Table 8

Provision of technology development and transfer support^{a,b}

<i>Recipient country and/or region</i>	<i>Targeted area</i>	<i>Measures and activities related to technology transfer</i>	<i>Sector^c</i>	<i>Source of the funding for technology transfer</i>	<i>Activities undertaken by</i>	<i>Status</i>	<i>Additional information^d</i>
Laos	Mitigation	Laos Energy Efficient Datacenter (LEED) Project In Lao People's Democratic Republic	Industry	Public	Private and Public	Implemented	

Table 9

JPN_BR3_v2.0

Provision of capacity-building support^a

<i>Recipient country/region</i>	<i>Targeted area</i>	<i>Programme or project title</i>	<i>Description of programme or project^{b,c}</i>
Asia/Pacific	Multiple Areas	Asia-Pacific joint research /observation work of the Global Environment	Supports the Asia-Pacific Network for Global Change Research (APN) which is an intergovernmental network in the Asia-Pacific region to foster global change research, increase developing country participation in that research, and strengthen interactions between the science community
Asia/Pacific	Adaptation	The Global Adaptation Network (GAN), the Asia-Pacific Adaptation Network (APAN)	Supports UNEP lead the Global Adaptation Network (GAN) and the Asia-Pacific Adaptation Network (APAN), to enhance capacity of policy-makers, practitioners and researchers in the Asia-Pacific region by sharing knowledge on climate change adaptation
Asia/Pacific	Mitigation	The 14th and 15th Workshop on Greenhouse Gas Inventories in Asia (WGIA14, 15)	WGIA has been held organized by the Ministry of the Environment of Japan, National Institute for Environmental Studies and host countries' governments since 2003 for the purpose of the quality improvement of Greenhouse gas inventories in Asian countries and promotion of regional cooperation
Bangladesh	Adaptation	Disaster Risk Management Enhancement Project	In Bangladesh where many natural disasters occur, this project aims to enhance the comprehensive disaster risk management of the Government of Bangladesh by recovering and rehabilitating infrastructure at high risk for natural disasters, providing equipment for emergency communication and relief, and establishing and implementing a scheme for the quick and effective recovery and rehabilitation, thereby contributing to the sustainable development of Bangladesh with the
East Timor	Adaptation	The Project for Community-Based Sustainable Natural Resource Management(CBNRM) PhaseII	This project contributes to enhance the capacity of key operational actors such as the NDFWM, NGOs and other relevant stakeholders through developing human resources, strengthening existing rules and establishing roadmaps aiming for community-based sustainable natural resource
El Salvador	Adaptation	The Project for Capacity Development of the Department of Climate Change Adaptation and Strategic Risk Management for Strengthening of Public	This project aims to improve disaster risk management of road infrastructure through developing a standard document/manual on road disaster risks, implementing pilot projects and strengthening of the capacity of the Department of Climate Change Adaptation and Strategic Risk Management (DACGER)

Table 9

JPN_BR3_v2.0

Provision of capacity-building support^a

<i>Recipient country/region</i>	<i>Targeted area</i>	<i>Programme or project title</i>	<i>Description of programme or project^{b,c}</i>
Indonesia	Adaptation	Cooperation on Climate Change Impact Assessment for Local Adaptation Planning in the Republic of	This project aims to cooperate on climate change impact assessment to formulate the local climate change adaptation plans under National Action Plan for Climate Change
Mongolia	Adaptation	Supporting Impact Assessment and Adaptation planning on Climate Change	Adaptation (RAN-API) through capacity building for local This project aims to support practical formulation for national climate change adaptation planning by cooperation of scientific technical impact assessment in Mongolia.
Mongolia, Bangladesh, Vietnam, Laos, Indonesia, Cambodia, Thailand, Myanmar, Malaysia, the Philippines, India. etc.	Mitigation	FY2015 Capacity Building for the Joint Crediting Mechanism	Capacity-building to implement JCM