Supplemental of

Long-term historical trends in air pollutant emissions in Asia: Regional Emission inventory in ASia (REAS) version 3.1

Junichi Kurokawa and Toshimasa Ohara

Correspondence to: Junichi Kurokawa (kurokawa@acap.asia)

Supplement Figures

Figures S1, S3, S5, S7, S9, and S11 show emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors during 1950-2015 in China, India, Japan, Southeast Asia (SEA), East Asia other than China and Japan (OEA), and South Asia other than India (OSA), respectively. (Sectors for (a)-(h): PP = Power plants, IND = Industry, ROAD = Road transport, OTRA = Other transport, RESI = Residential, and ODOM = Other domestic; Sectors for (i): CMB = Combustion, ROAD = Road transport (including both tail pipe and evaporative emissions), INDPRC = Industrial processes, EXT = Extraction processes, PAINT = Paint use, SLV = Solvent use, and WST = Waste treatment; Sectors for (j): CMB = Combustion, MM = Manure management, FER = Fertilizer application, HUMAN = Human perspiration and respiration, and LTRN = Latrines, INDPRC = Industrial processes.)

Figures S2, S4, S6, S8, S10, and S12 provide emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type during 1950-2015 in China, India, Japan, SEA, OEA, and OSA, respectively. Emissions from non-combustion sources are not included in (i) NMVOC and (j) NH3 to show contributions from fuel types clearly because majority of their emissions are from non-combustion sources. In Japan, emissions from cement production were estimated not by fuel consumption, but based on production amounts of cement in each kiln type. Therefore, contributions from total emissions from cement kiln combustion are included in CEMK (see below). For brick and lime production, all emissions estimated based on production amounts are included in NCMB (see below) (Fuel types: COAL = Primary coal, DC = Secondary coal, NGAS = Natural gas, OGAS = Other gas fuels, LF = Light oil fuels, MD = Diesel oil, HF = Heavy oil fuels, BF = Biofuels, OTH = Other fuels, NCMB = Non-combustion sources, and CEMK = combustion emissions from cement kilns (only for Japan))

Figure S13 illustrates grid maps of annual emissions of CO_2 and PM_{10} in 1965 and 2015.

Figures S14 and S15 compare CO, NMVOC, NH_3, PM_{10}, $PM_{2.5}$, and OC emissions in REASv3.1 with other published estimates for China and India, respectively.

Figures S16-S19 compare emissions of SO_2, NO_x, BC, CO, NMVOC, NH_3, PM_{10}, $PM_{2.5}$, and OC in REASv3.1 with other published estimates for Japan, SEA, OEA, and OSA, respectively.

Figures S20 compares relative ratios of emissions from China, India, Japan, SEA, OEA, and OSA for CO, NMVOC, NH_3, PM_{10}, $PM_{2.5}$, and OC among REASv3.1, CEDS, and EDGARv4.3.2.

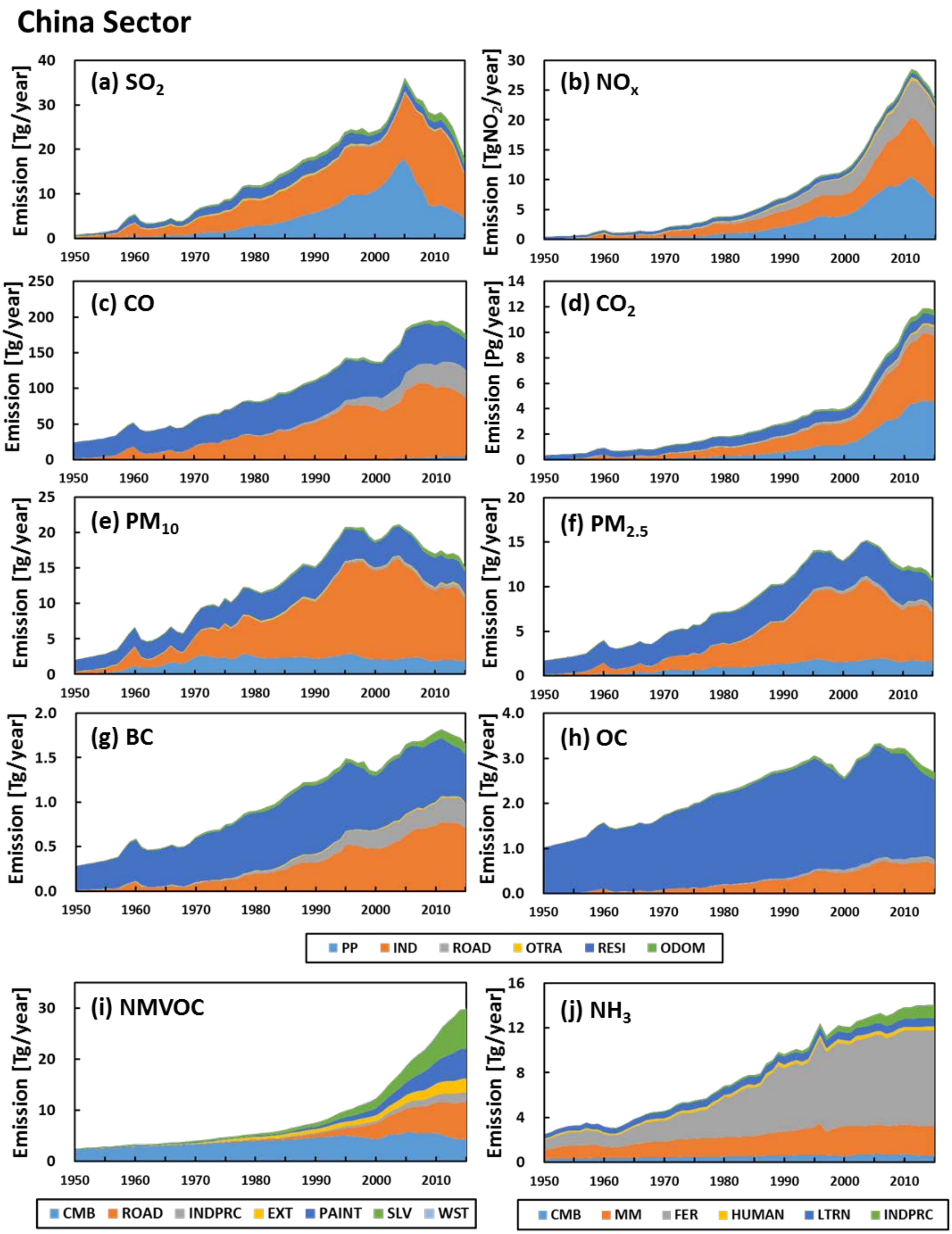


Figure S1: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors in China from 1950 to 2015.

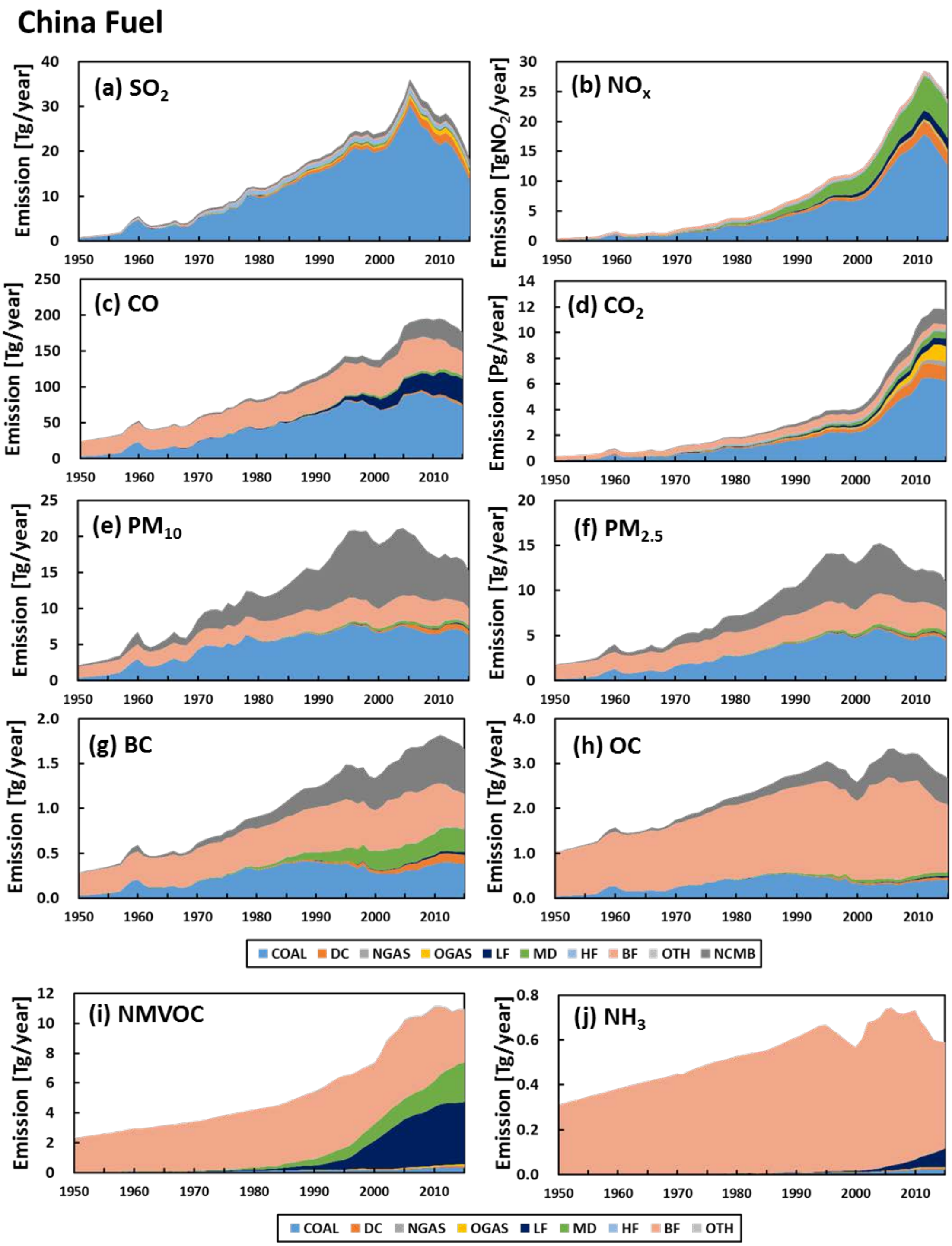


Figure S2: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type in China from 1950 to 2015.

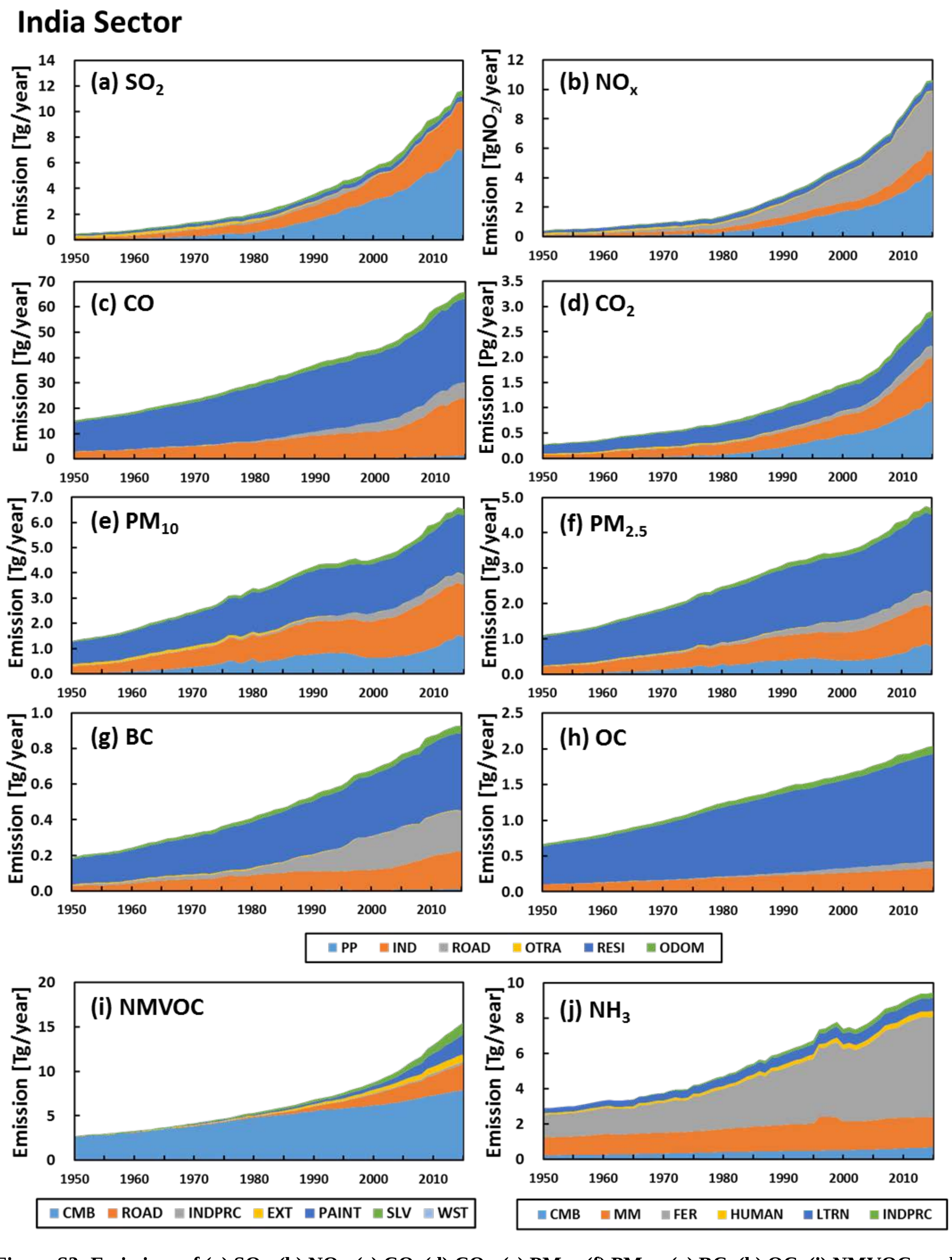


Figure S3: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors in India from 1950 to 2015.

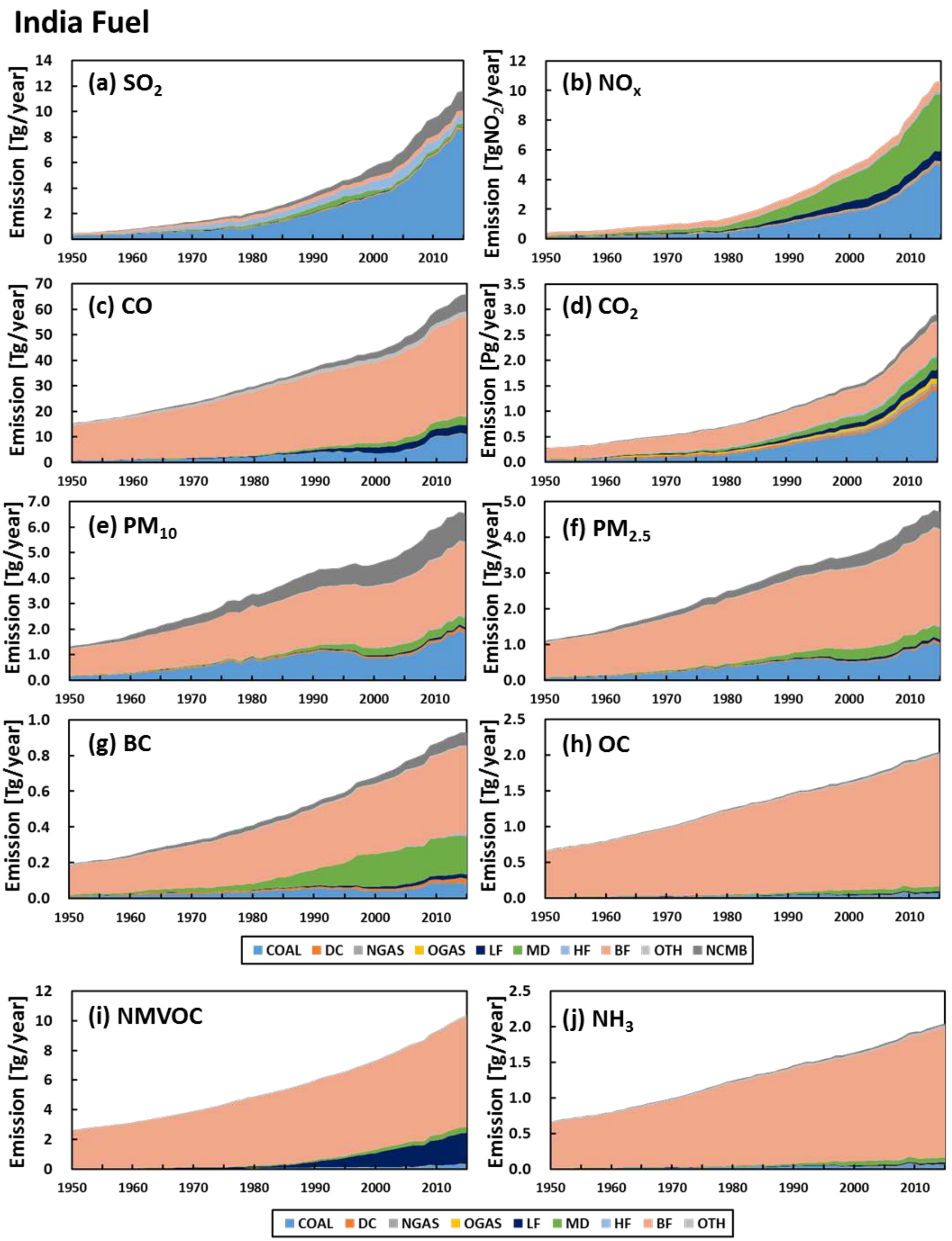


Figure S4: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type in India from 1950 to 2015.

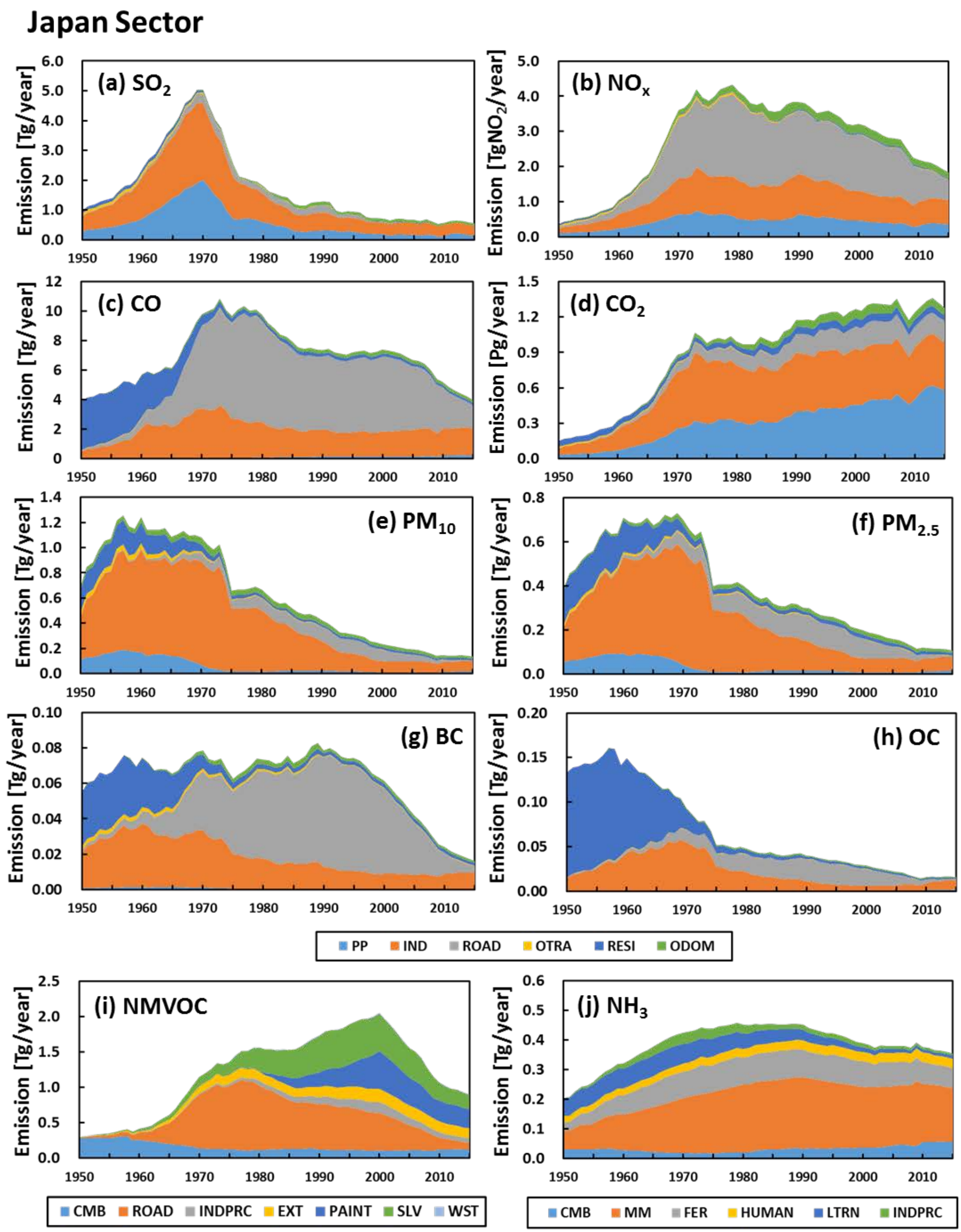


Figure S5: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors in Japan from 1950 to 2015.

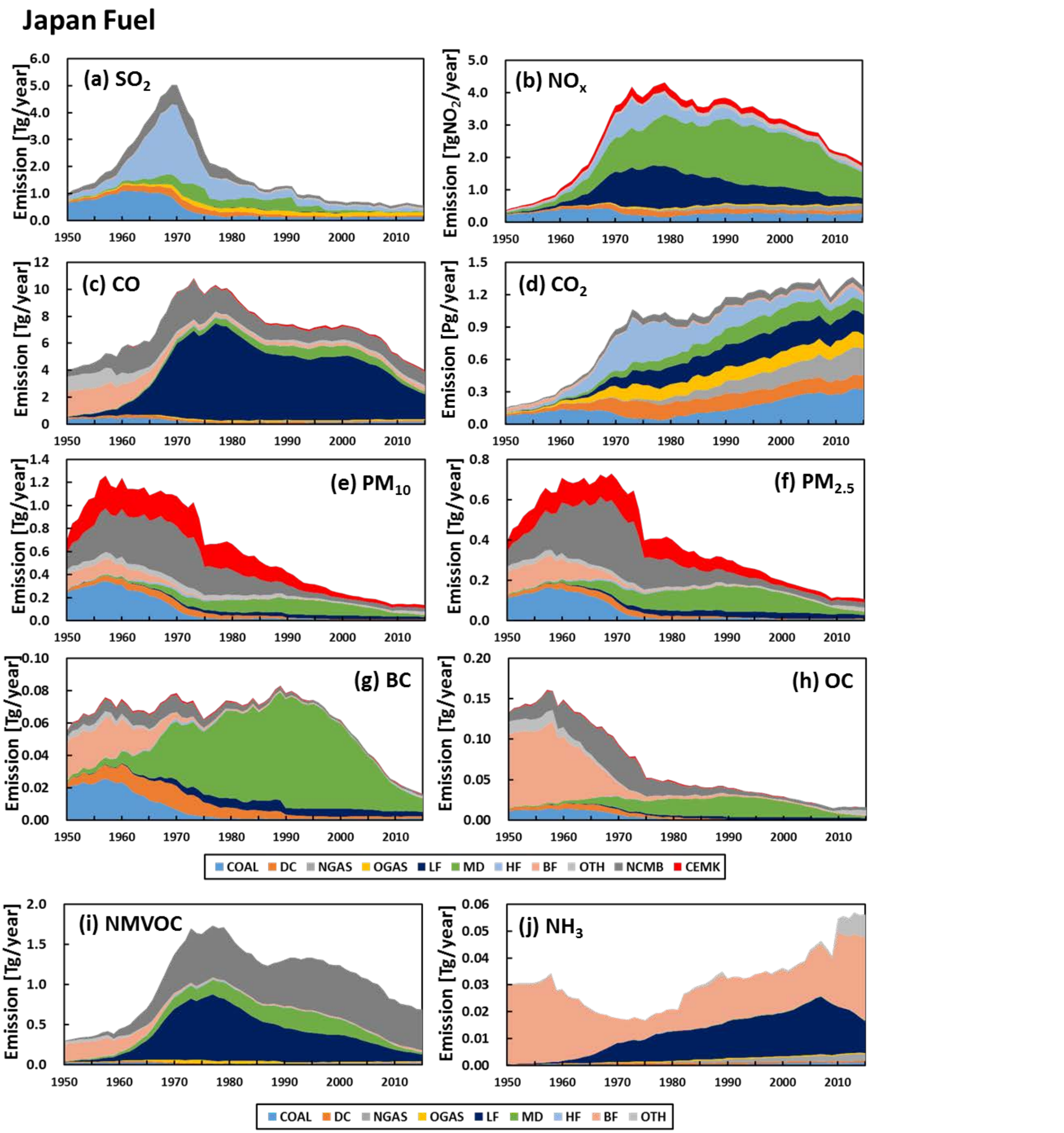


Figure S6: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type in Japan from 1950 to 2015.

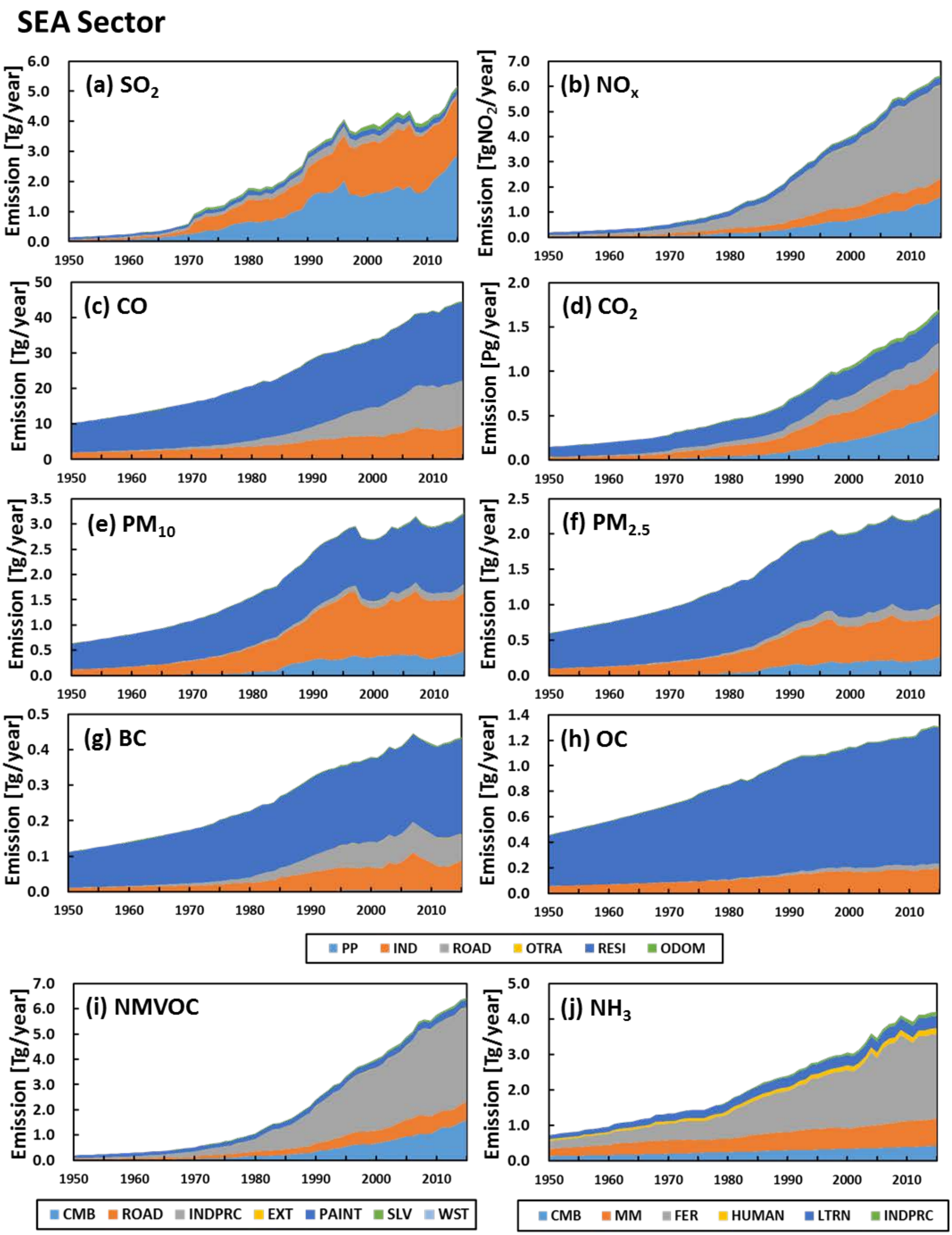


Figure S7: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors in SEA from 1950 to 2015.

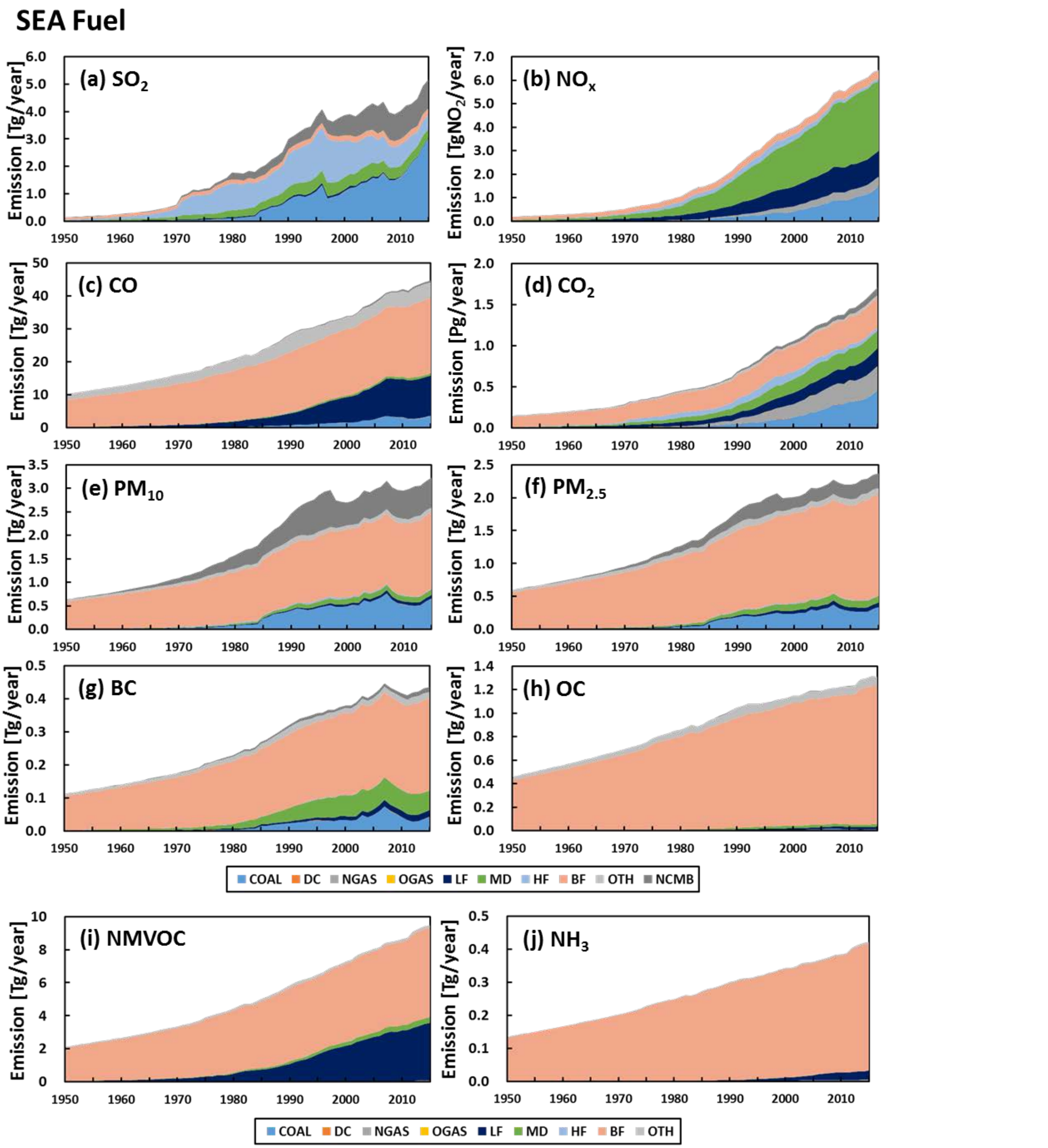


Figure S8: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type in SEA from 1950 to 2015.

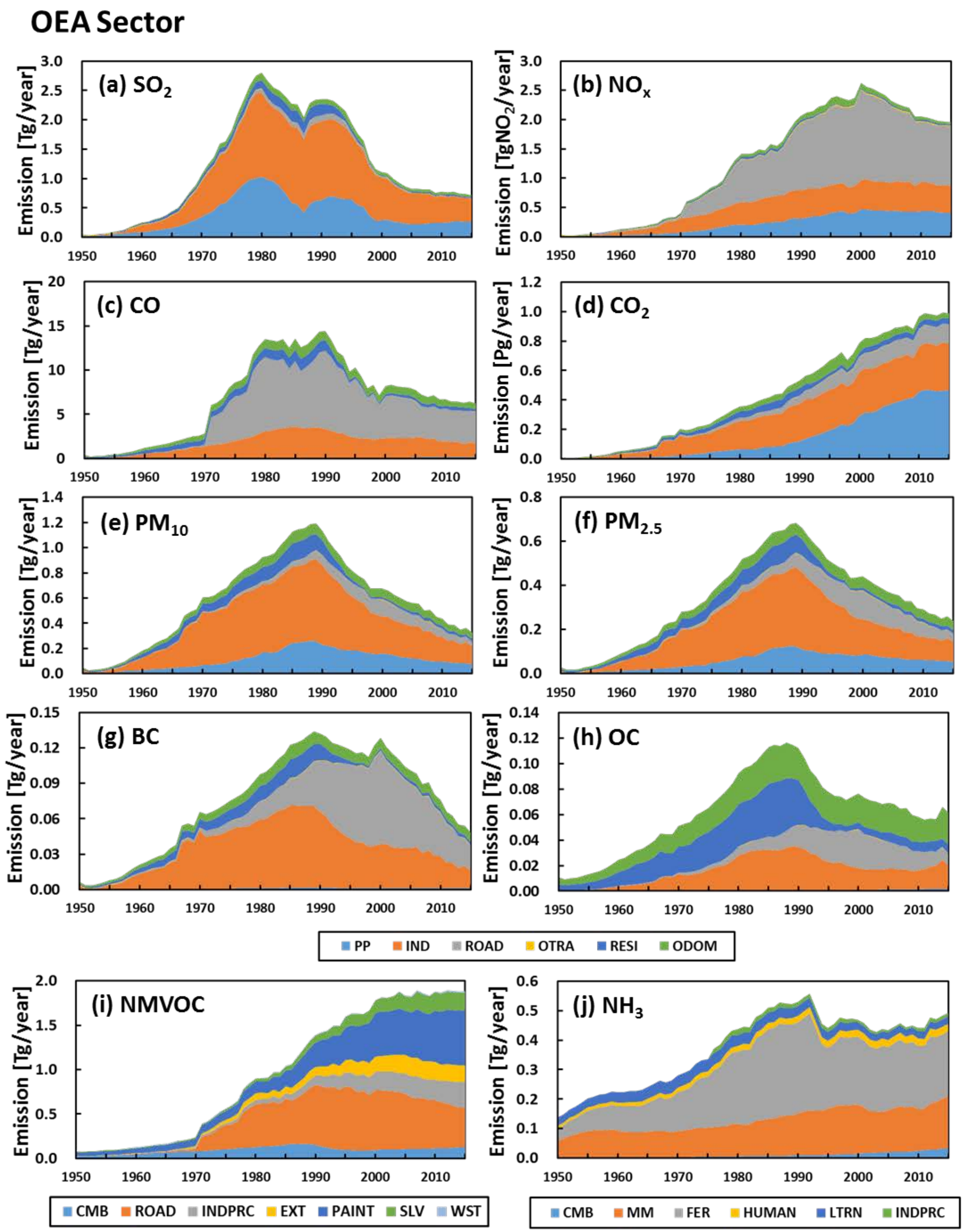


Figure S9: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors in OEA from 1950 to 2015.

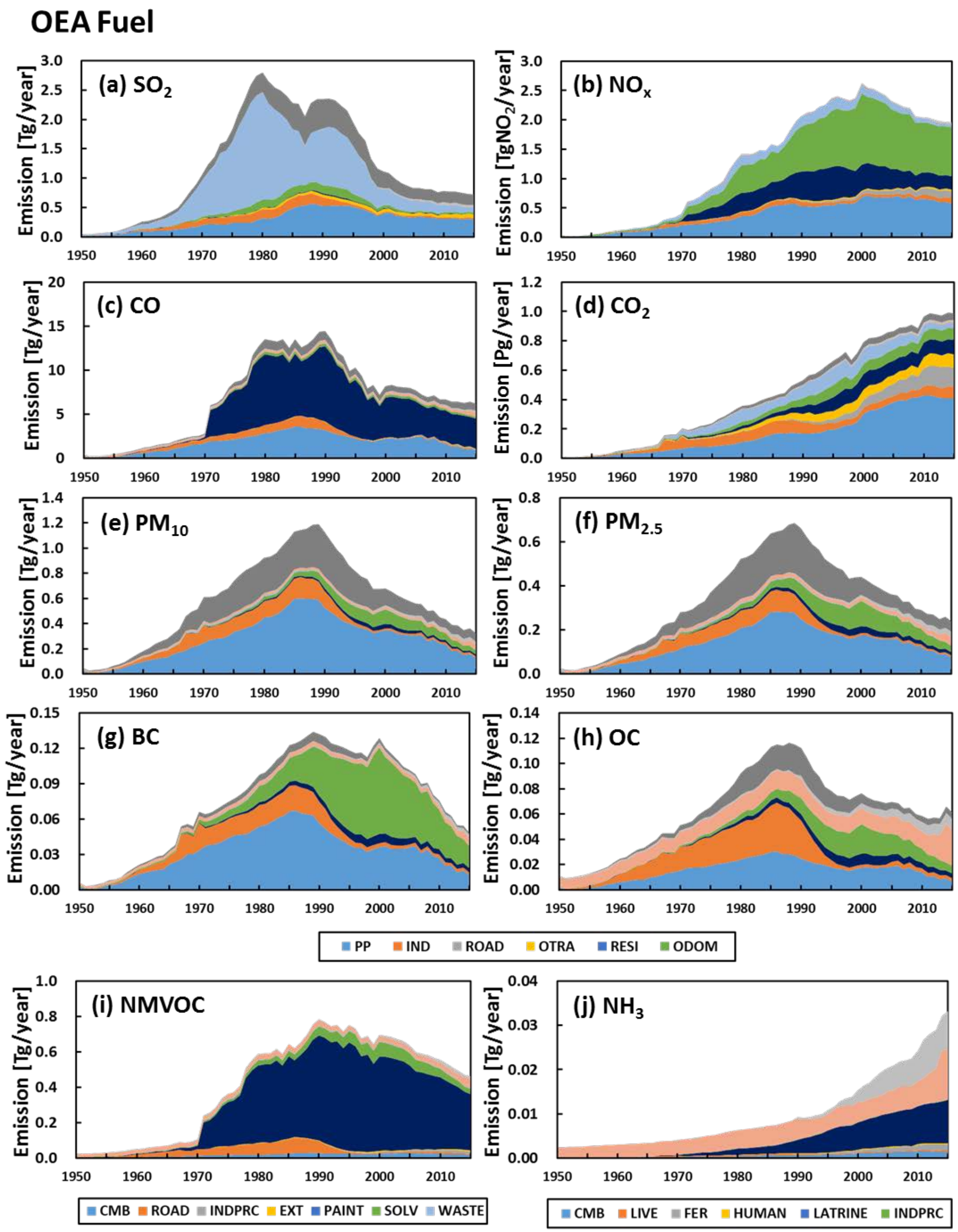


Figure S10: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type in OEA from 1950 to 2015.

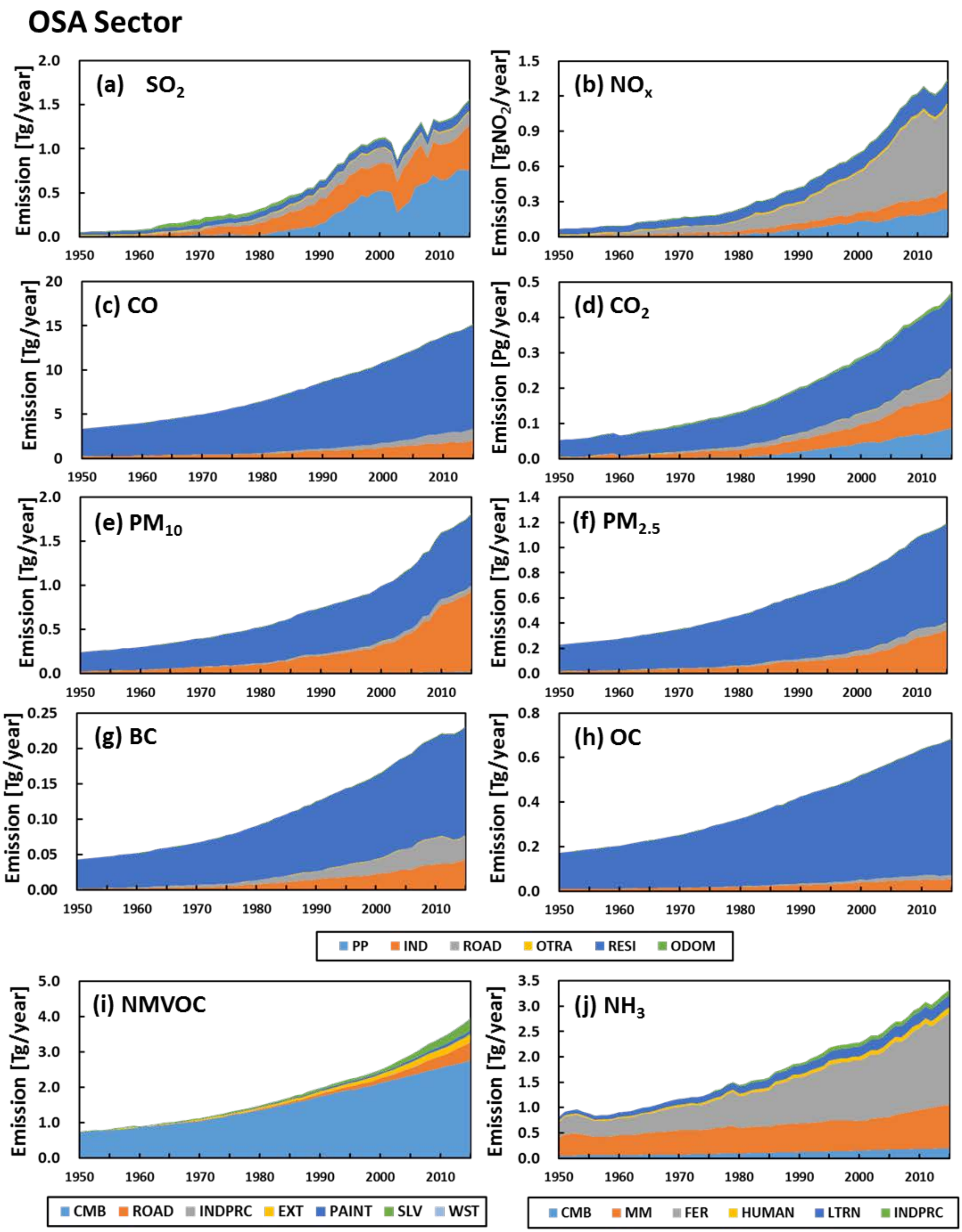


Figure S11: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from major sectors in OSA from 1950 to 2015.

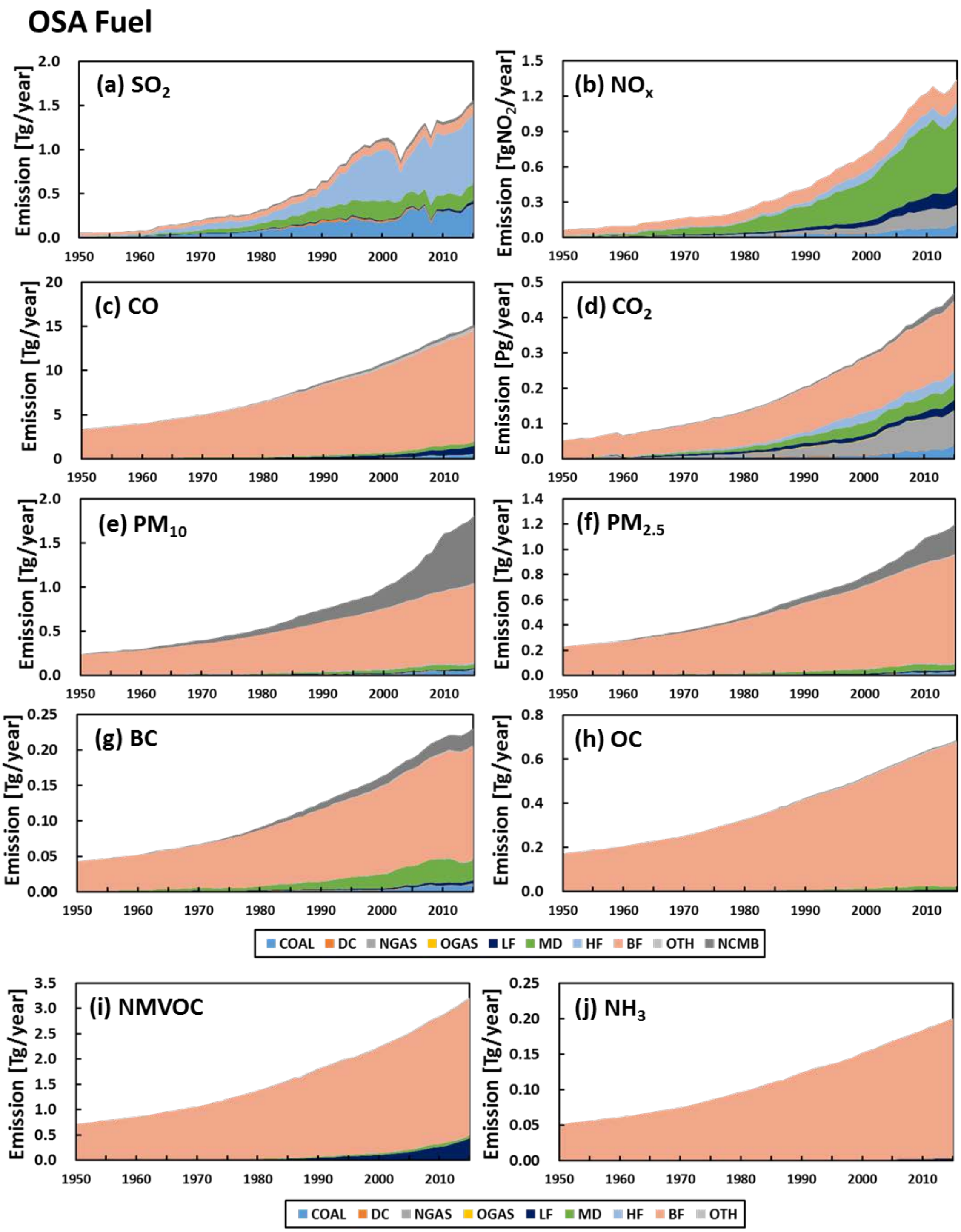


Figure S12: Emissions of (a) SO_2, (b) NO_x, (c) CO, (d) CO_2, (e) PM_{10}, (f) $PM_{2.5}$, (g) BC, (h) OC, (i) NMVOC, and (j) NH_3 from each fuel type in OSA from 1950 to 2015.

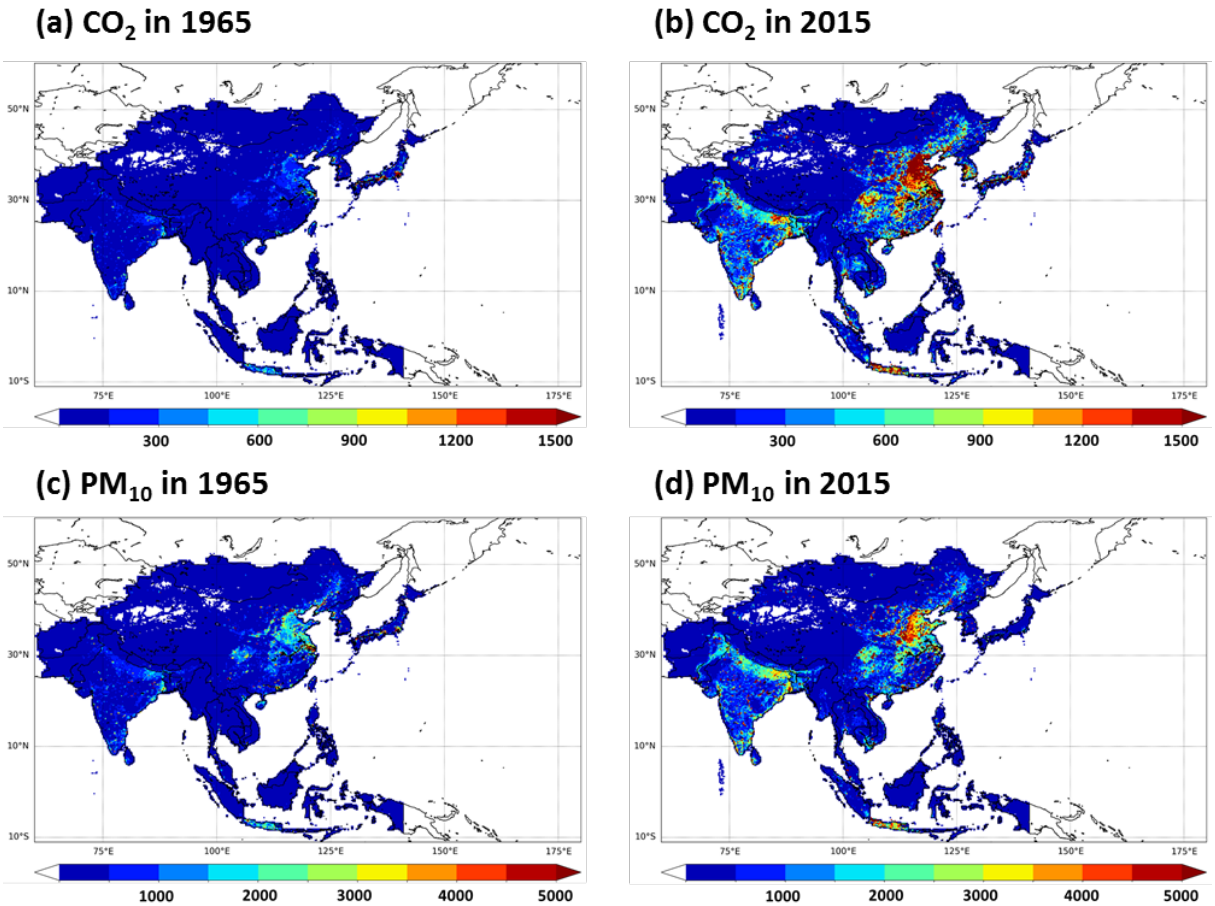


Figure S13: Grid maps of annual emissions of (a, c) CO_2 (kt year^{-1} per grid cell) and (b, d) PM_{10} (t year^{-1} per grid cell) in 1965 (left) and 2015 (right).

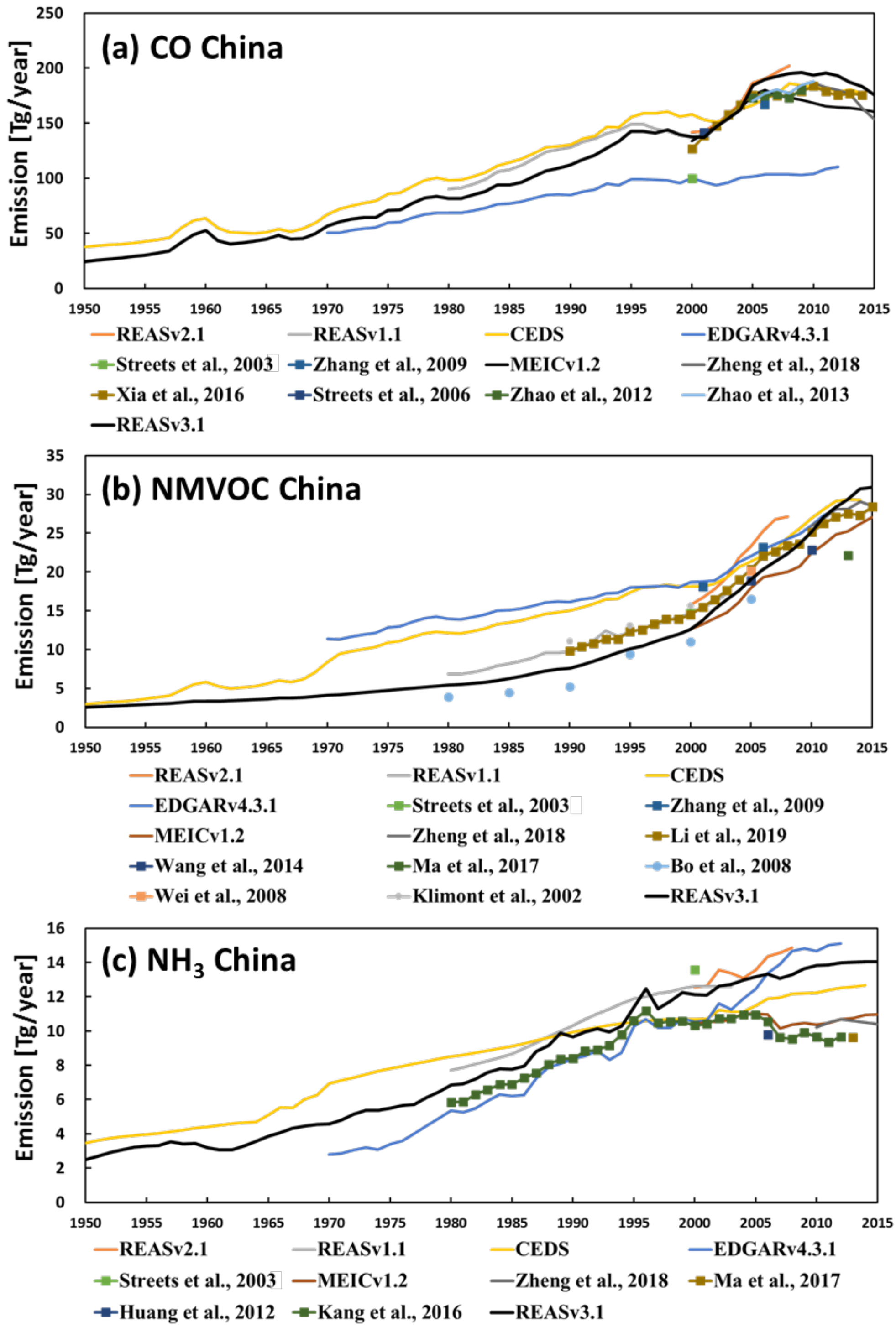


Figure S14: Comparison of (a) CO, (b) NMVOC, (c) NH_3, (d) PM_{10}, (e) $PM_{2.5}$ and (f) BC emissions in China between REASv3.1 and other studies.

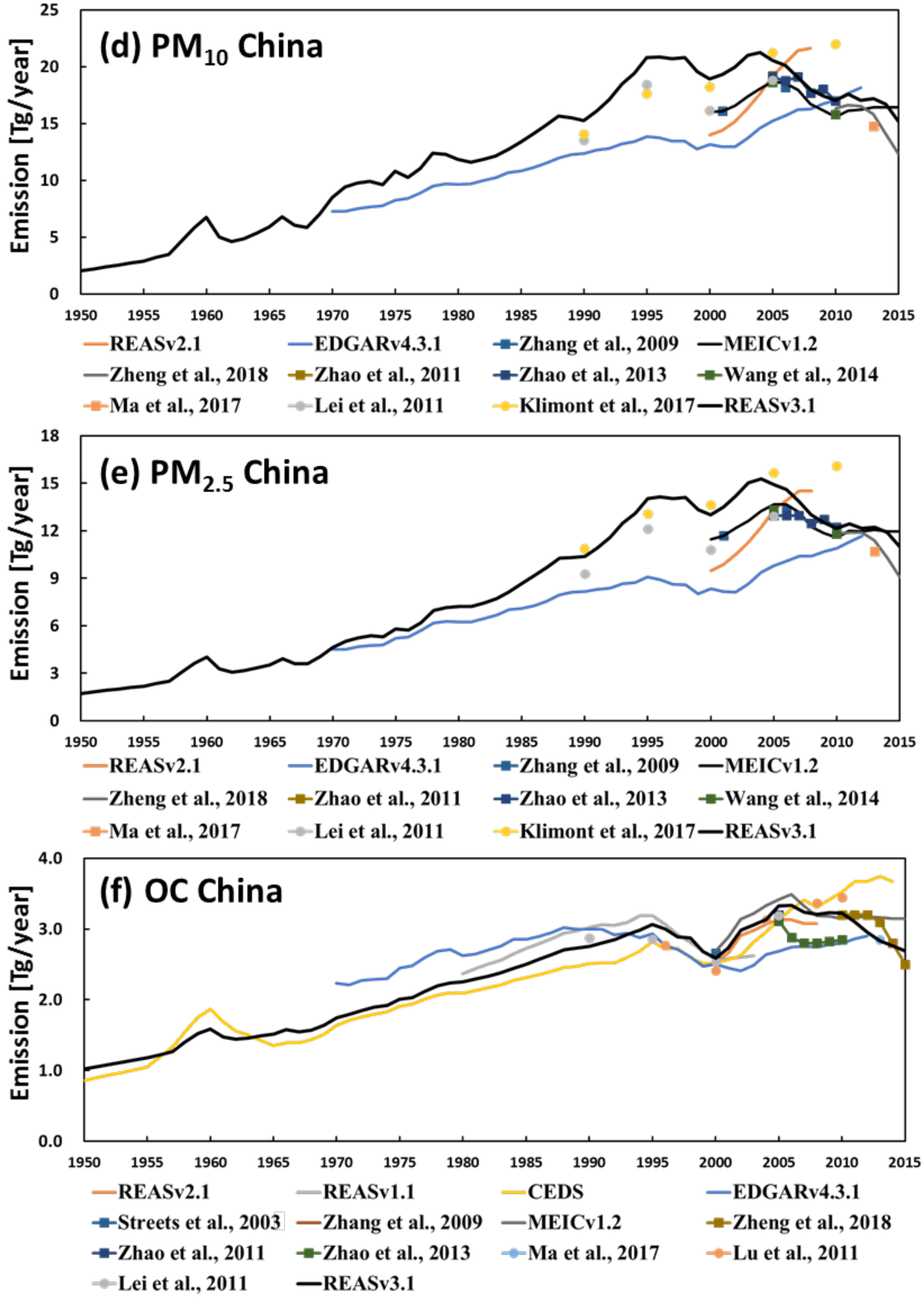


Figure S14: Continued.

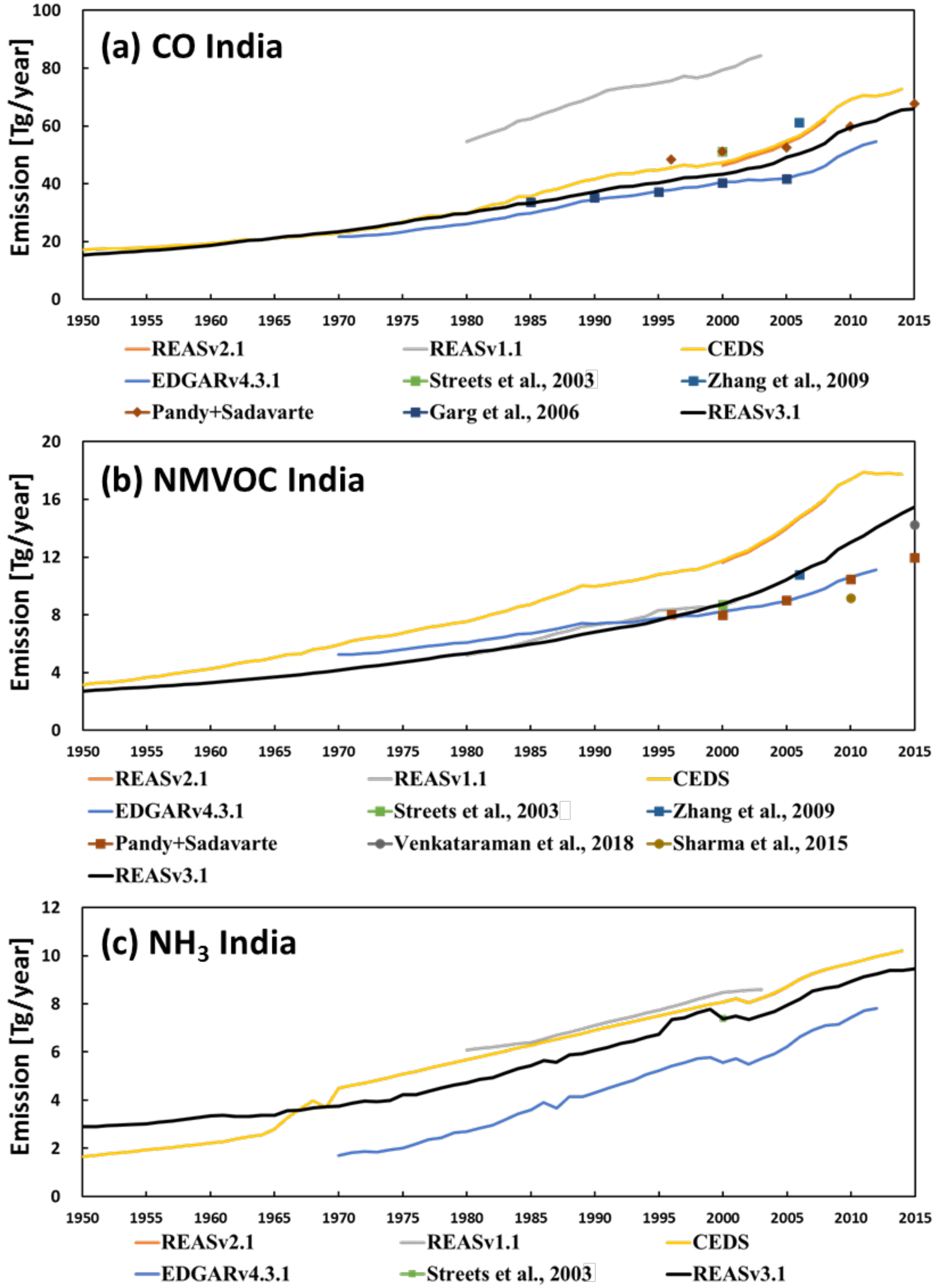
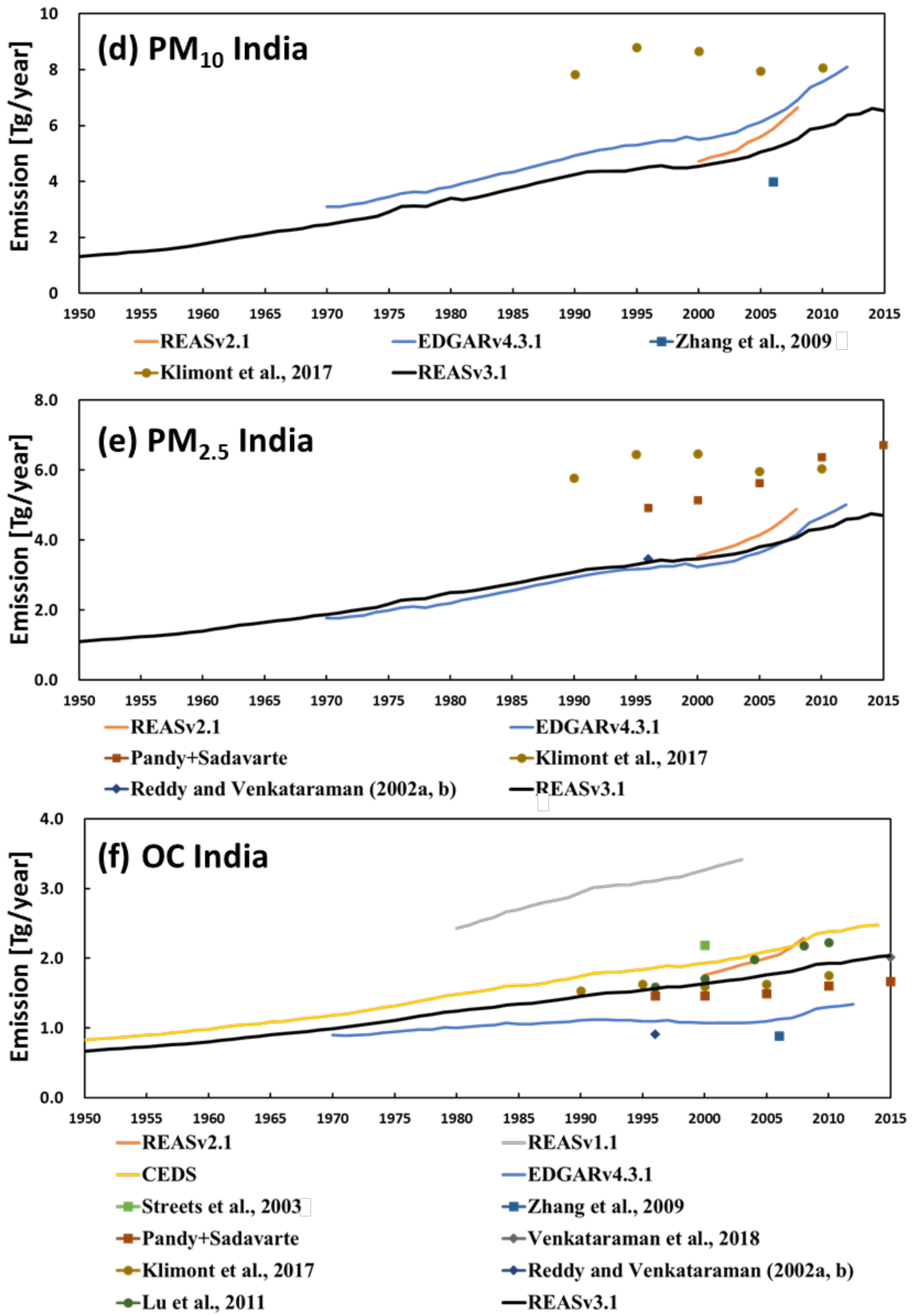


Figure S15: Comparison of (a) CO, (b) NMVOC, (c) NH_3, (d) PM_{10}, (e) $PM_{2.5}$ and (f) OC emissions in India between REASv3.1 and other studies.



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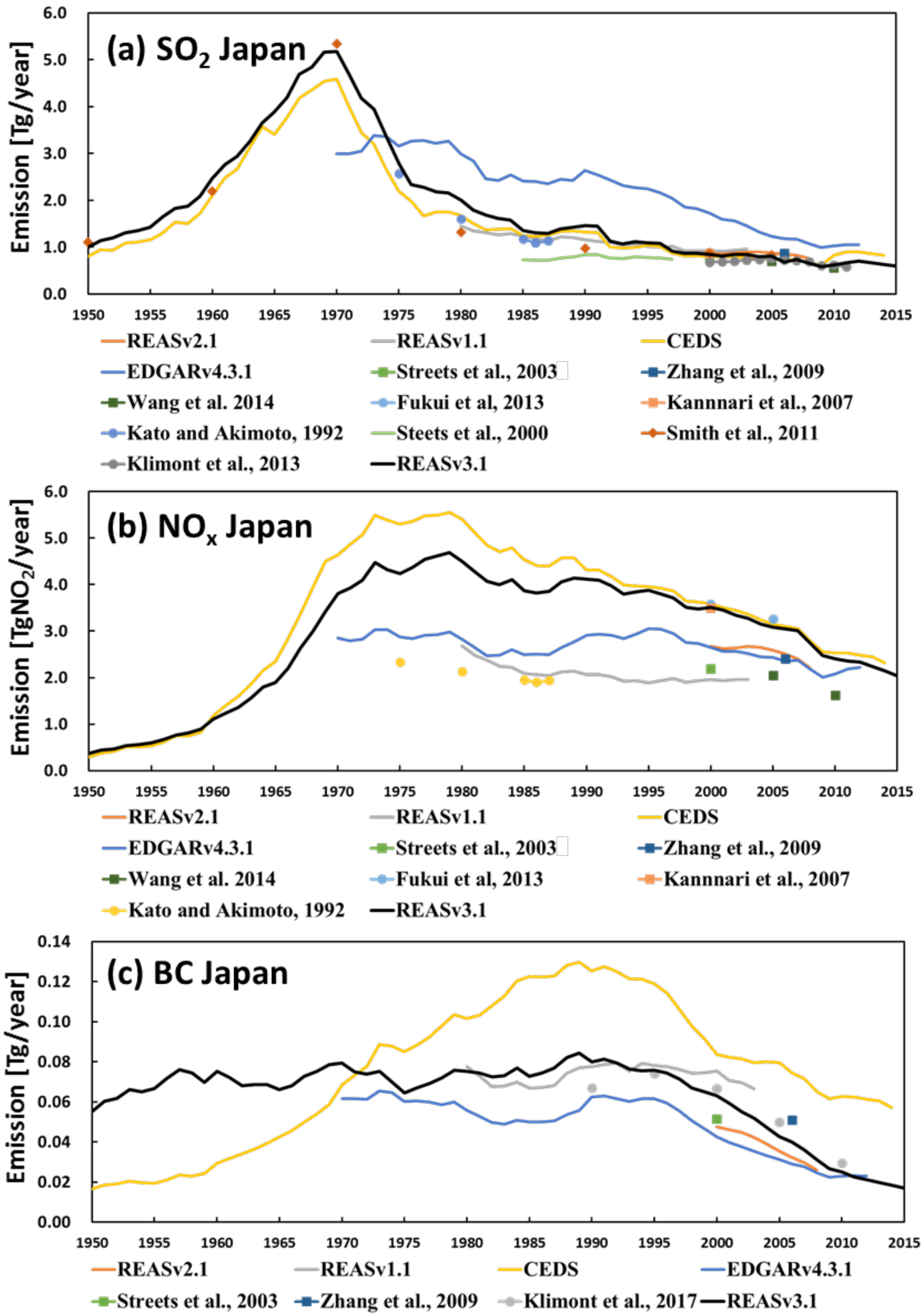


Figure S16: Comparison of (a) SO_2, (b) NO_x, (c) BC, (d) CO, (e) NMVOC, (f) NH_3, (g) PM_{10}, (h) $PM_{2.5}$ and (i) OC emissions in Japan between REASv3.1 and other studies.

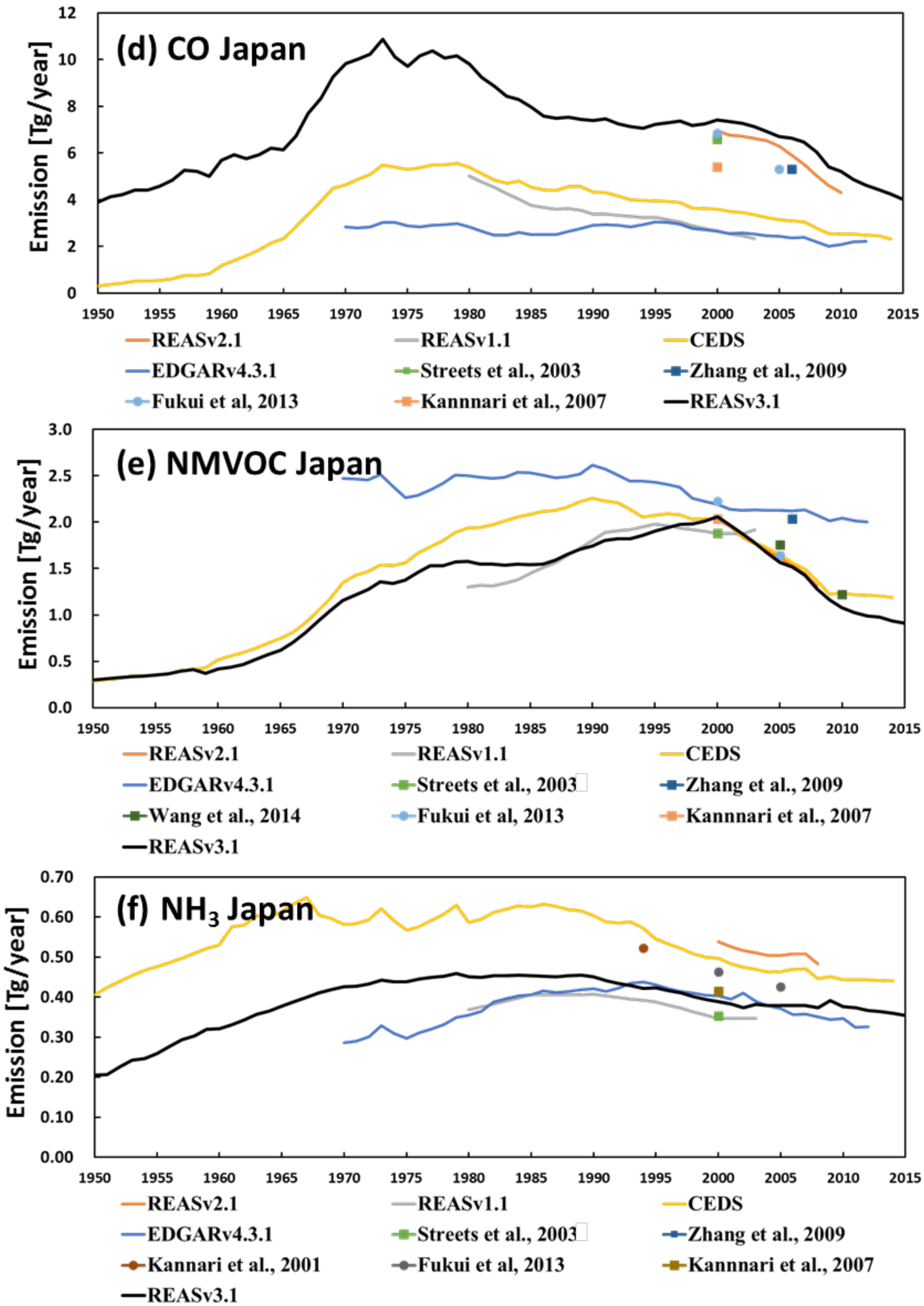


Figure S16: Continued.

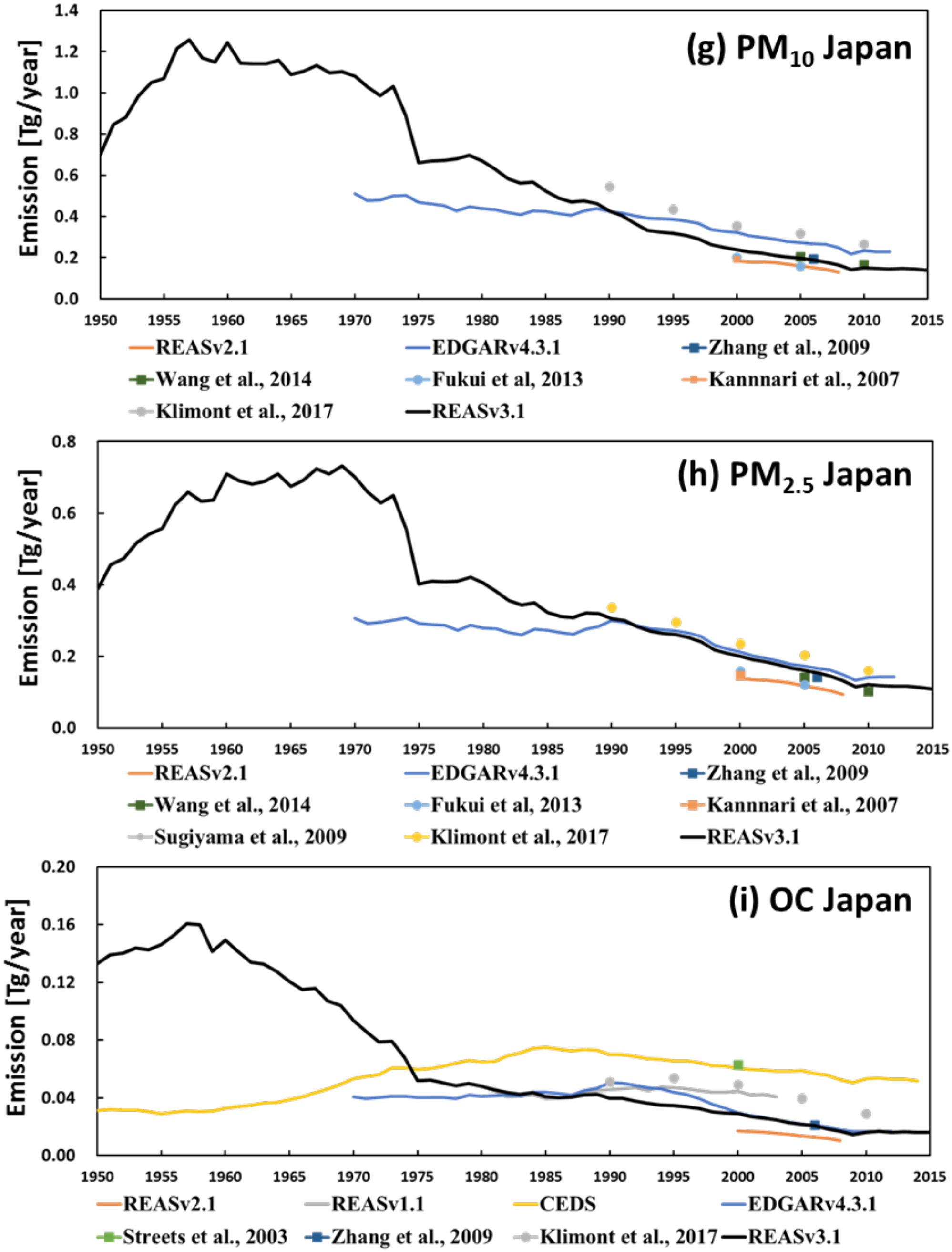


Figure S16: Continued.

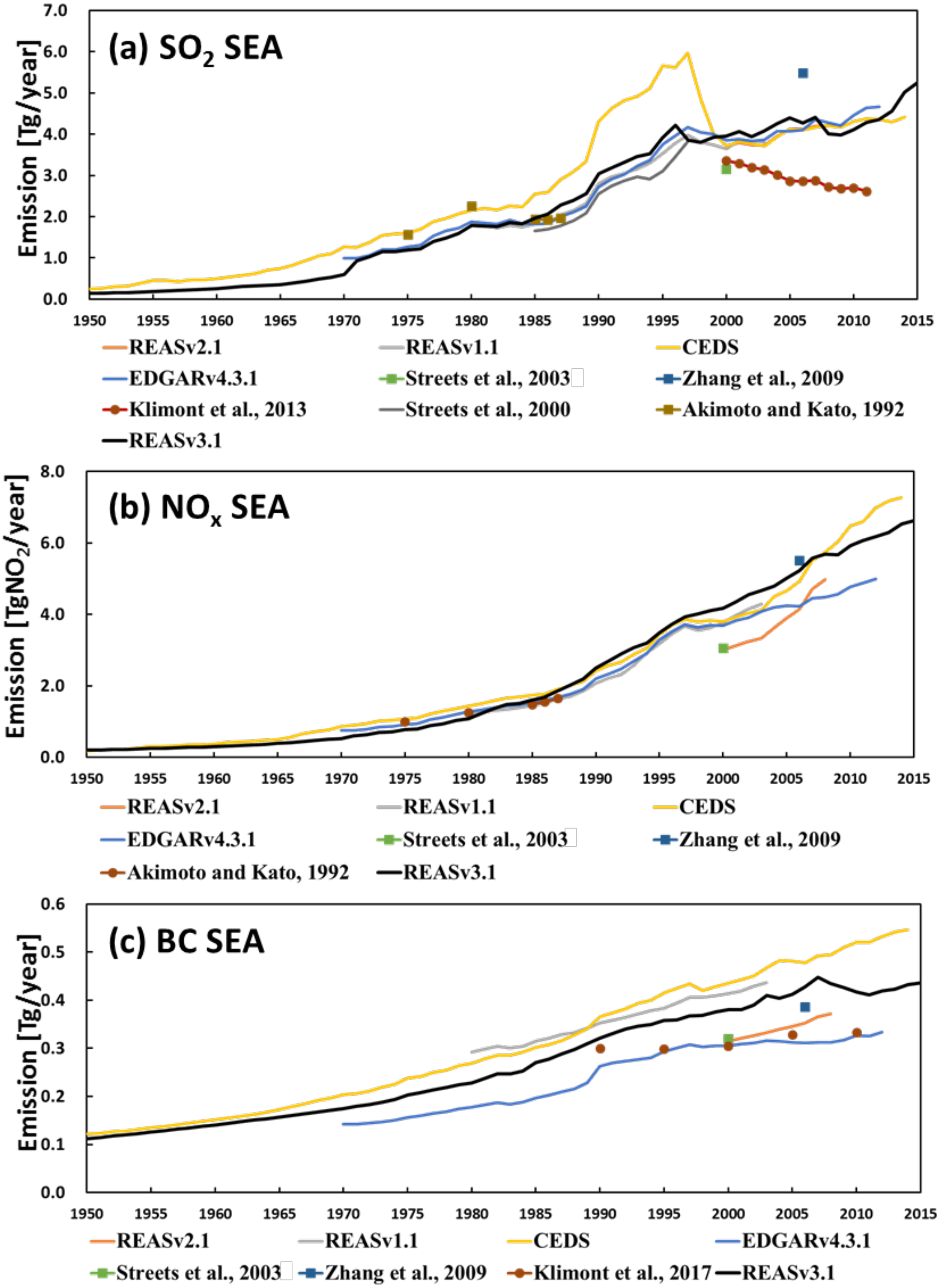


Figure S17: Comparison of (a) SO_2, (b) NO_x, (c) BC, (d) CO, (e) NMVOC, (f) NH_3, (g) PM_{10}, (h) $PM_{2.5}$ and (i) OC emissions in SEA between REASv3.1 and other studies.

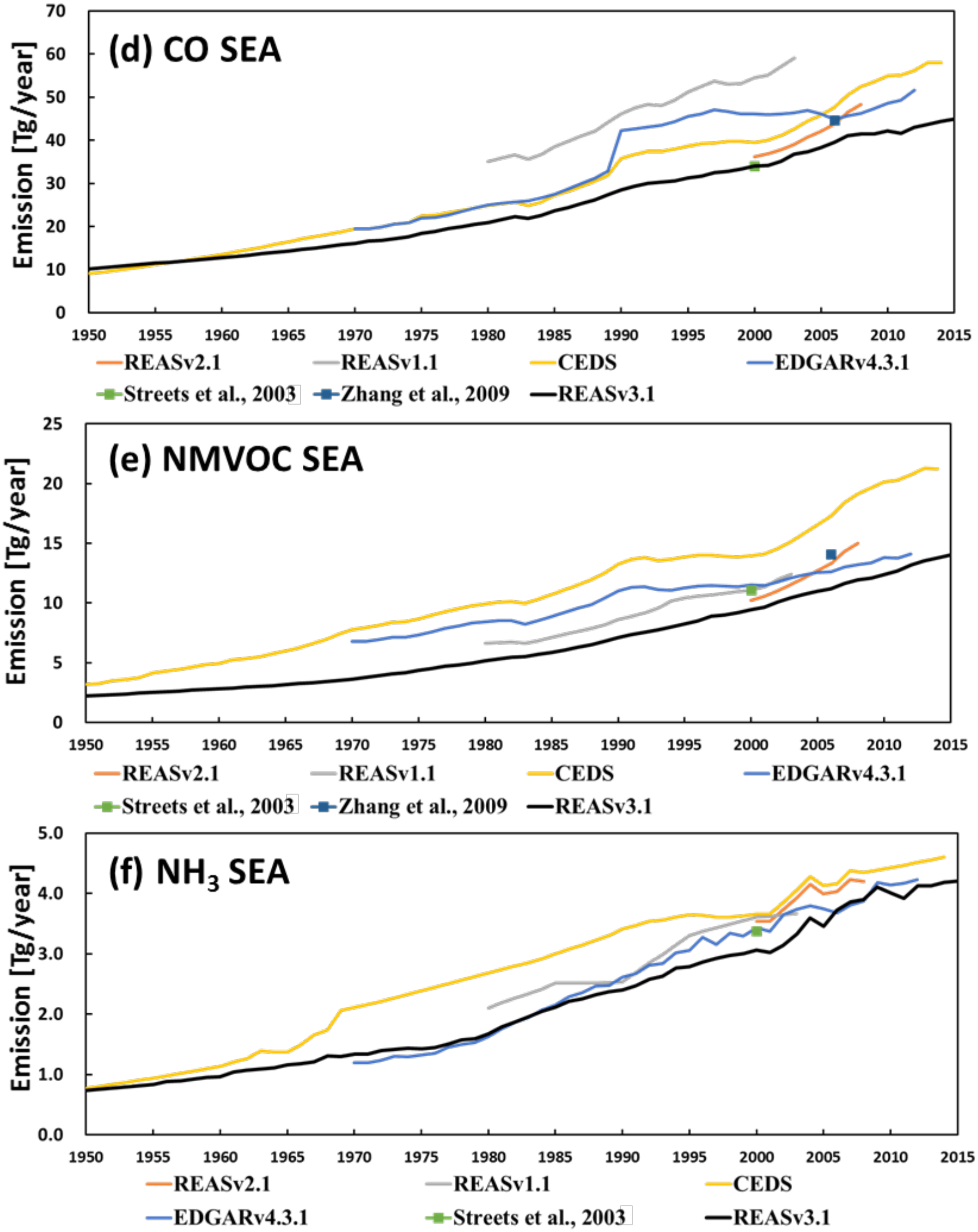


Figure S17: Continued.

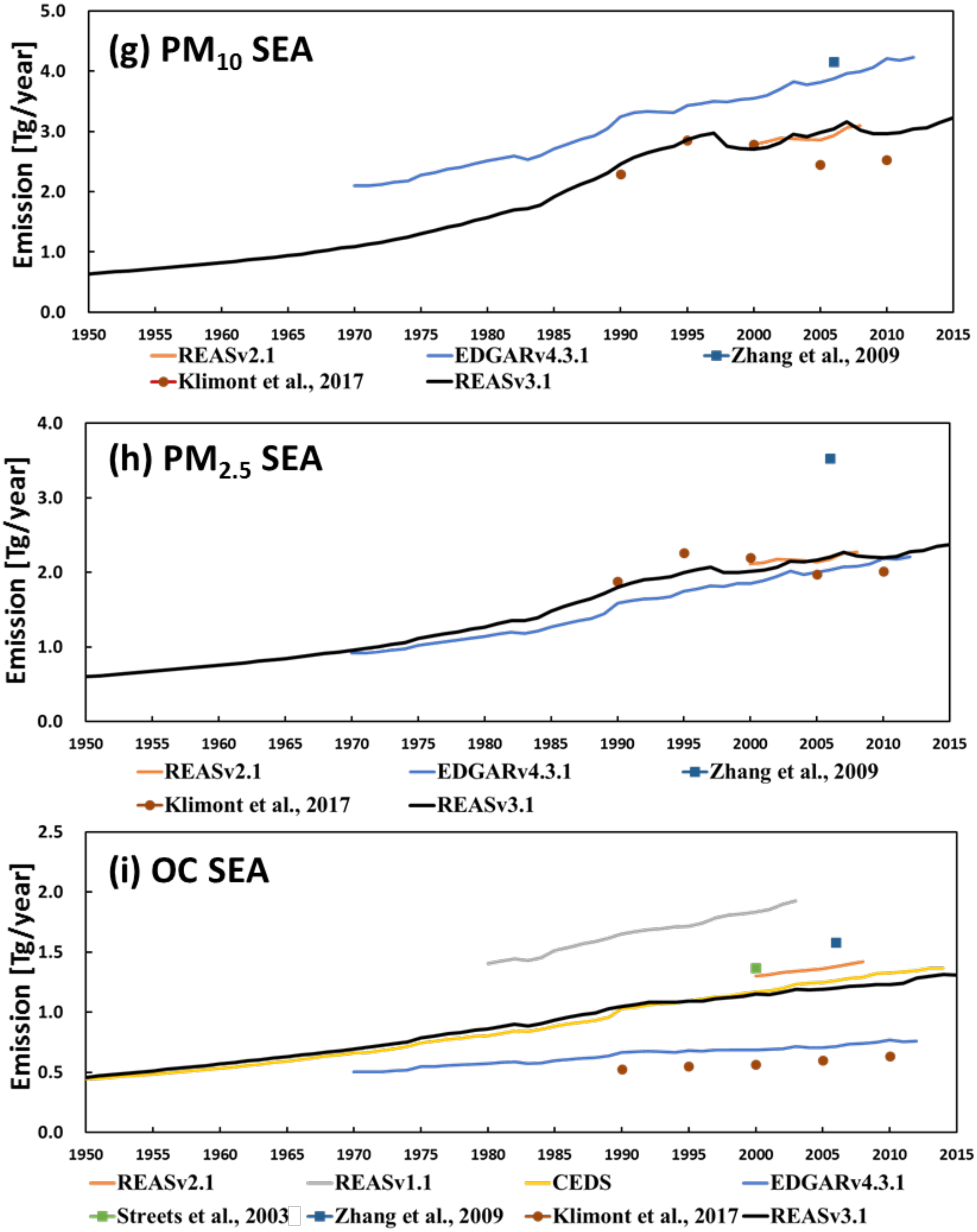


Figure S17: Continued.

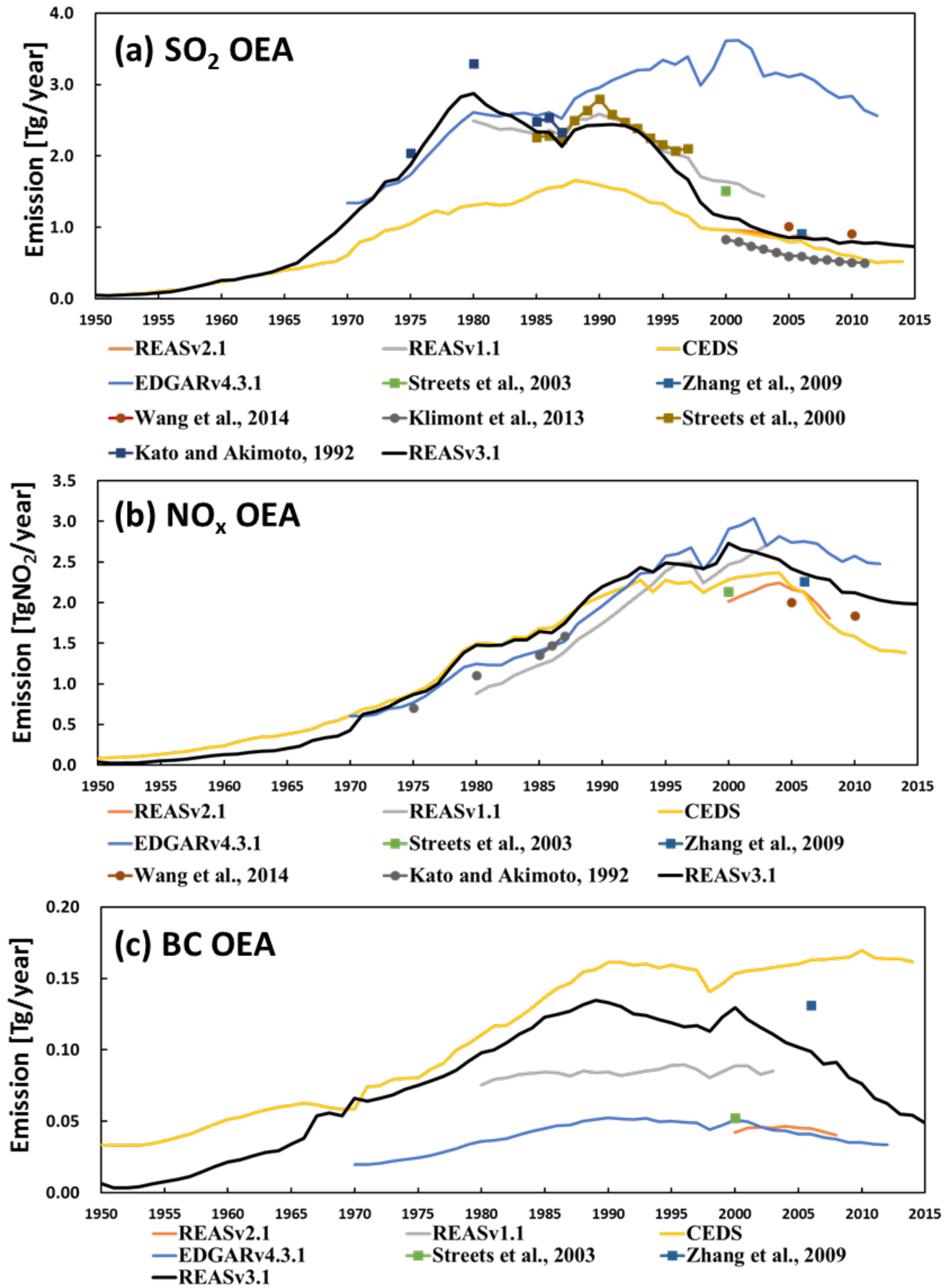


Figure S18: Comparison of (a) SO_2, (b) NO_x, (c) BC, (d) CO, (e) NMVOC, (f) NH_3, (g) PM_{10}, (h) $PM_{2.5}$ and (i) OC emissions in OEA between REASv3.1 and other studies.

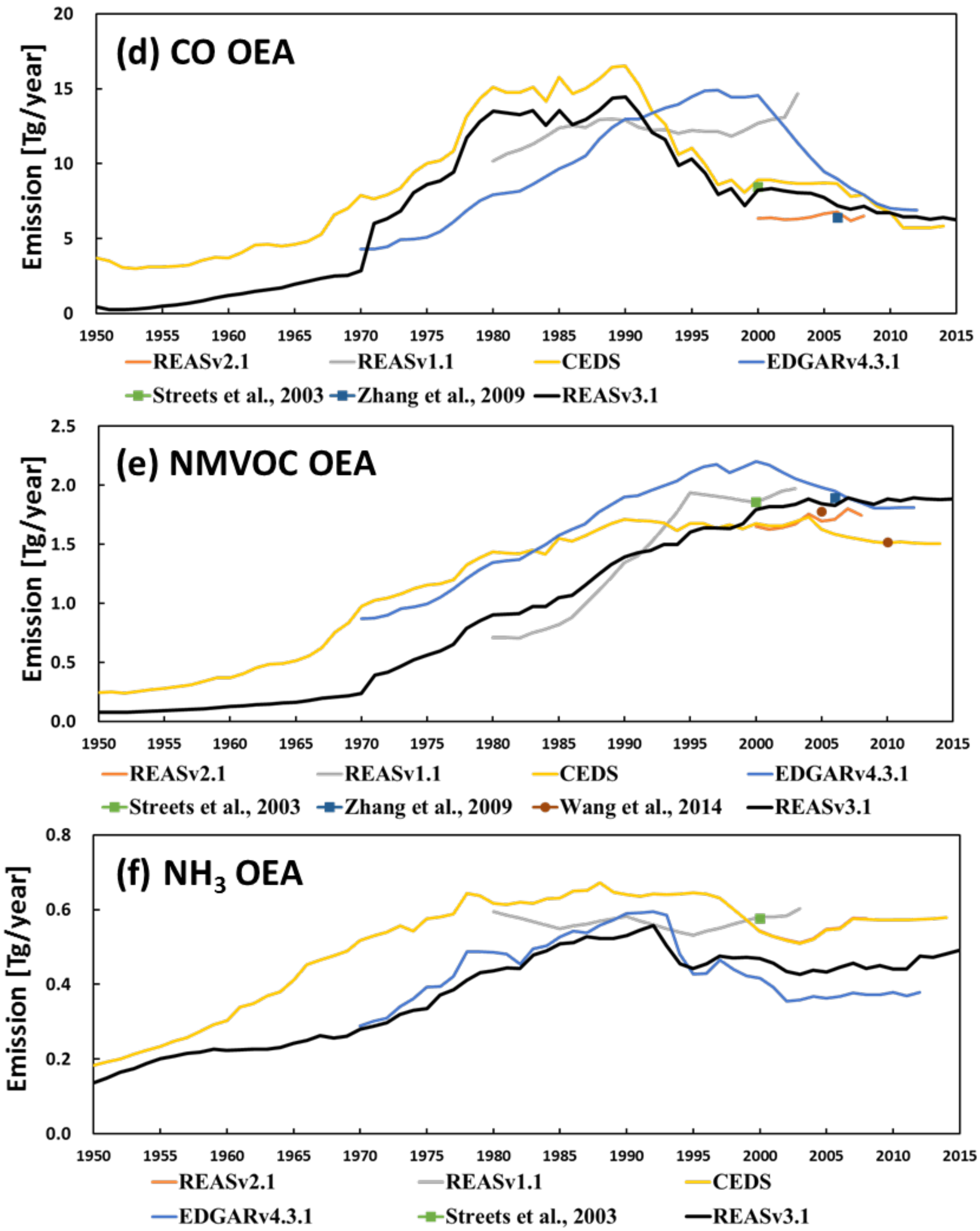


Figure S18: Continued.

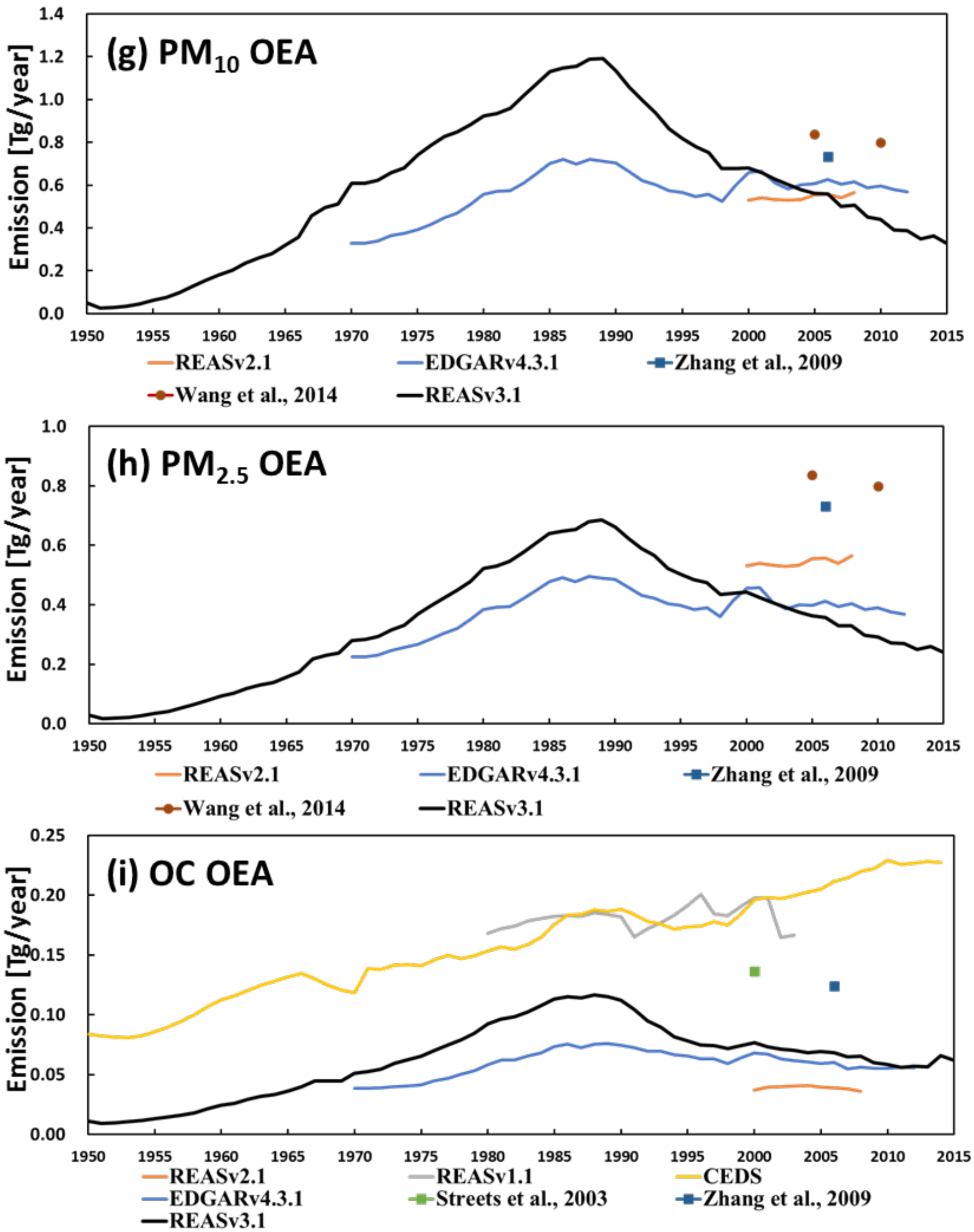


Figure S18: Continued.

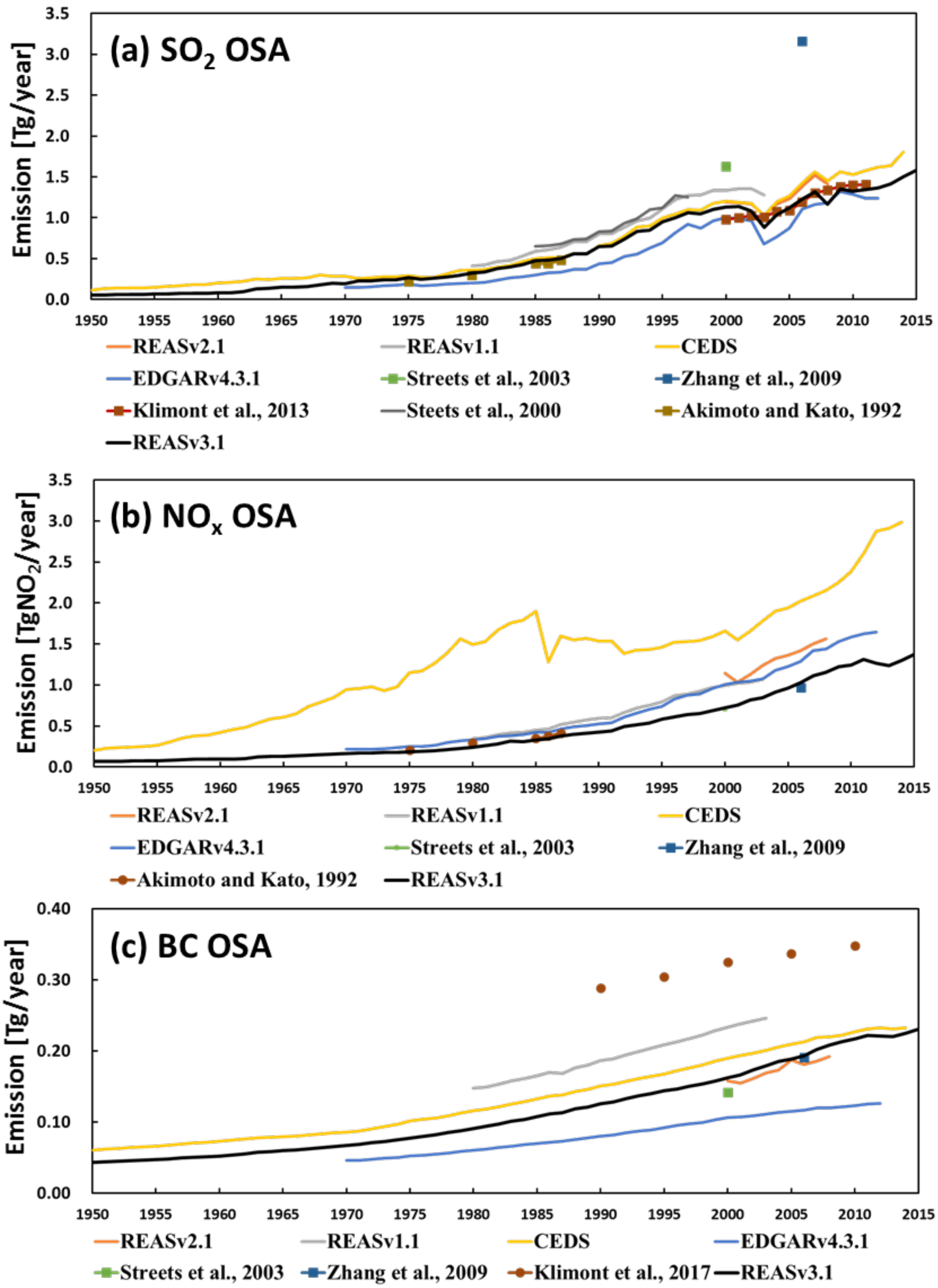


Figure S19: Comparison of (a) SO_2, (b) NO_x, (c) BC, (d) CO, (e) NMVOC, (f) NH_3, (g) PM_{10}, (h) $PM_{2.5}$ and (i) OC emissions in OSA between REASv3.1 and other studies.

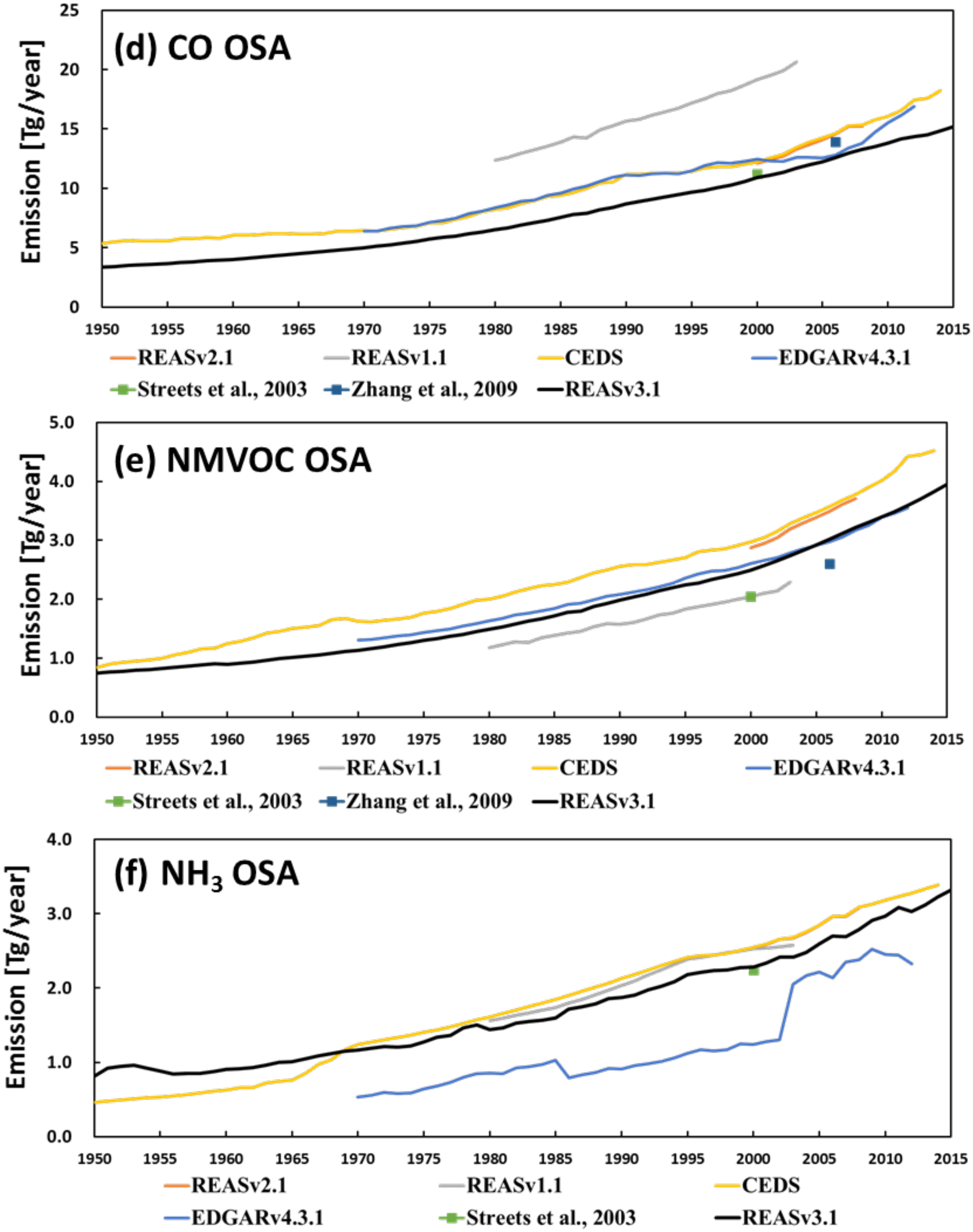
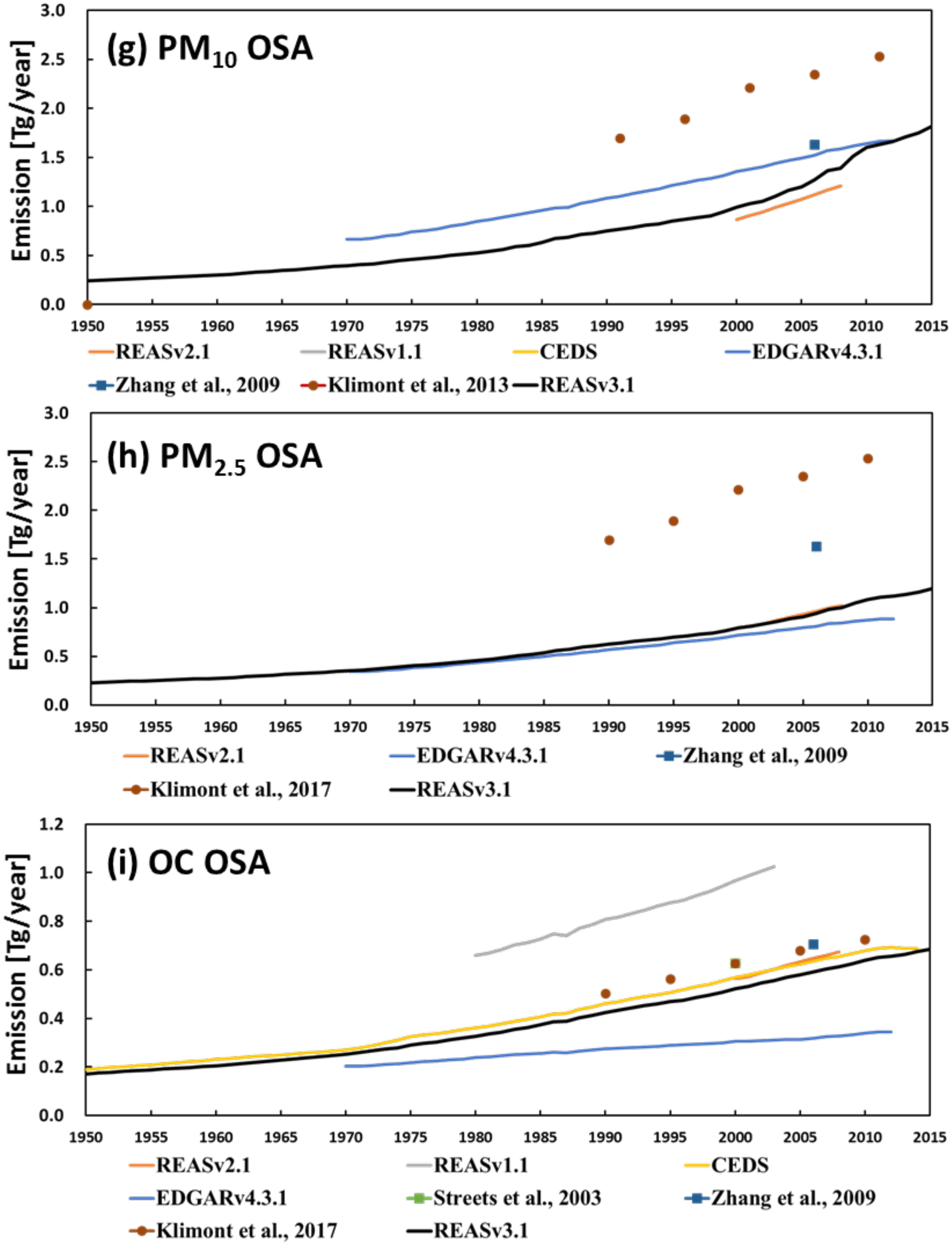


Figure S19: Continued.



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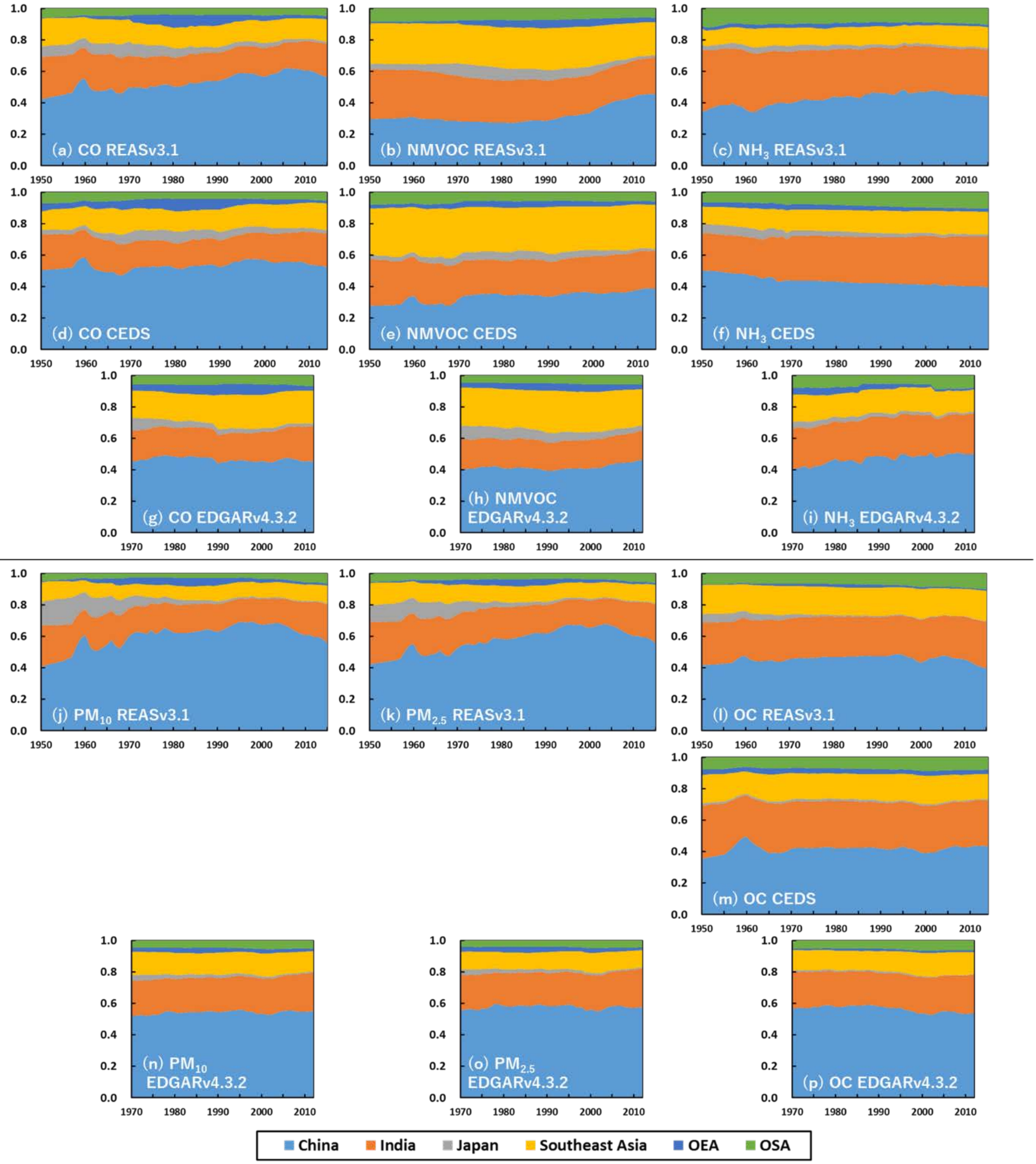

Figure S20: Comparison of trends of relative ratios of emissions from China, India, Japan, Southeast Asia, OEA, and OSA for (a, d, g) CO, (b, e, h) NMVOC, (c, f, i) NH_3, (j, n) PM_{10}, (k, o) $PM_{2.5}$, and (l, m, p) OC among (a, b, c, j, k, l) REASv3.1, (d, e, f, m) CEDS, and (g, h, i, n, o, p) EDGARv4.3.2.

Supplement Tables

Table S1 provides target countries and sub-regions in REASv3.1 with their codes used in the manuscript and country and regional emission table data for major sectors and those for major fuel types available from a data download site of REAS (http://www.nies.go.jp/REAS/.).

Table S2 shows uncertainties of emissions of SO_2, NO_x, CO, CO_2, PM_{10}, $PM_{2.5}$, BC, and OC for each sector in China, India, Japan, Southeast Asia (SEA), East Asia other than China and Japan (OEA), and South Asia other than India (OSA) in 2015,1985, and 1955.

Table S3 presents uncertainties of emissions of NMVOC for each sector in China, India, Japan, SEA, OEA, and OSA in 2015,1985, and 1955.

Table S4 provides uncertainties of emissions of NH_3 for each sector in China, India, Japan, SEA, OEA, and OSA in 2015,1985, and 1955.

Table S1: Countries and sub-regions included in REAS 3.1.

Region	Country/Sub-region	Code
China (CHN)	China/Whole Country	CHNWC
	China/Beijing	CHNBJ
	China/Tianjin	CHNTJ
	China/Hebei	CHNHE
	China/Shanxi	CHNSX
	China/Inner Mongolia	CHNNM
	China/Liaoning	CHNLN
	China/Jilin	CHNJL
	China/Heilongjiang	CHNHL
	China/Shanghai	CHNSH
	China/Jiangsu	CHNJS
	China/Zhejiang	CHNZJ
	China/Anhui	CHNAH
	China/Fujian	CHNFJ
	China/Jiangxi	CHNJX
	China/Shandong	CHNSD
	China/Henan	CHNHA
	China/Hubei	CHNHB
	China/Hunan	CHNHN
	China/Guangdong	CHNGD
	China/Guangxi	CHNGX
	China/Hainan	CHNHI
	China/Chongqing	CHNCQ
	China/Sichuan	CHNSC
	China/Guizhou	CHNGZ
	China/Yunnan	CHNYN
	China/Tibet	CHNXZ
	China/Shaanxi	CHNSN
	China/Gansu	CHNGS
	China/Qinghai	CHNQH
	China/Ningxia	CHNNX
	China/Xinjiang	CHNXJ
	China/Hong Kong	CHNHK
	China/Macau	CHNMC
India (IND)	India/Whole Country	INDWC
	India/Andhra Pradesh	INDAP
	India/Bihar, Jharkhand	INDBJ
	India/North East (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura)	INDAN
	India/Gujarat	INDGU
	India/Haryana	INDHA
	India/Karnataka, Goa	INDKG
	India/Kerala	INDKE
	India/Madhya Pradesh, Chhattisgarh	INDMC
	India/Maharashtra	INDMA

	India/Orissa	INDOR
	India/Punjab, Chandigarh	INDPU
	India/Rajasthan	INDRA
	India/Tamil Nadu	INDTN
	India/Utter Pradesh, Uttaranchal	INDUU
	India/West Bengal	INDWB
	India/Himachal Pradesh, Jammu and Kashmir	INDHJ
	India/Delhi	INDDE
Japan (JPN)	Japan/Whole Country	JPNWC
	Japan/Hokkaido-Tohoku	JPNHT
	Japan/Kanto	JPNKN
	Japan/Chubu	JPNCB
	Japan/Kinki	JPNKK
	Japan/Chugoku-Shikoku	JPNCS
	Japan/Kyushu-Okinawa	JPNKO
Other East Asia (OEA)	Korea, Rep of/Whole Country	KORWC
	Korea, DPR/Whole Country	PRKWC
	Mongolia/Whole Country	MNGWC
	Taiwan/Whole Country	TWNWC
Southeast Asia (SEA)	Brunei/Whole Country	BRNWC
	Cambodia/Whole Country	KHMWC
	Indonesia/Whole Country	IDNWC
	Laos/Whole Country	LAOWC
	Malaysia/Whole Country	MYSWC
	Myanmar/Whole Country	MMRWC
	Philippines/Whole Country	PHLWC
	Singapore/Whole Country re	SGPWC
	Thailand/Whole Country	THAWC
	Vietnam/Whole Country	VNMWC
Other South Asia (OSA)	Bangladesh/Whole Country	BGDWC
	Bhutan/Whole Country	BTNWC
	Nepal/Whole Country	NPLWC
	Pakistan/Whole Country	PAKWC
	Sri Lanka/Whole Country	LKAWC
	Afghanistan/Whole Country	AFGWC
	Maldives/Whole Country	MDVWC

Table S2: Uncertainties [%] of emissions of SO_2, NO_x, CO, CO_2, PM_{10}, $PM_{2.5}$, BC, and OC for each sector in China, India, Japan, Southeast Asia (SEA), East Asia other than China and Japan (OEA), and South Asia other than India (OSA) in (a) 2015, (b) 1985, and (c) 1955. Abbreviations for sectors are as follows: PP = Power Plants, IND = Industry, ROAD = Road transport, OTRA = Other transport, and DOM = Domestic. For OTRA of OEA in 1955, no emissions were estimated.

(a) 2015

	SO_2	NO_x	CO	CO2	PM_{10}	$PM_{2.5}$	BC	OC
China								
PP	±38	±65	±78	±48	±83	±83	±83	±83
IND	±48	±70	±113	±40	±115	±116	±160	±153
ROAD	±43	±47	±71	±46	±87	±86	±90	±83
OTRA	±57	±79	±131	±59	±134	±125	±138	±134
DOM	±59	±118	±205	±88	±251	±264	±258	±302
India								
PP	±47	±69	±102	±46	±96	±95	±93	±167
IND	±54	±74	±136	±55	±162	±181	±173	±243
ROAD	±52	±58	±67	±42	±88	±88	±95	±82
OTRA	±70	±84	±121	±66	±112	±112	±112	±112
DOM	±81	±174	±236	±136	±287	±292	±291	±298
Japan								
PP	±36	±43	±89	±41	±87	±89	±90	±93
IND	±43	±59	±64	±39	±96	±99	±89	±108
ROAD	±24	±17	±38	±31	±50	±50	±51	±50
OTRA	±39	±80	±117	±58	±110	±111	±111	±111
DOM	±51	±62	±78	±39	±74	±75	±72	±75
SEA								
PP	±59	±67	±113	±46	±102	±103	±103	±141
IND	±55	±78	±195	±62	±165	±191	±181	±254
ROAD	±54	±65	±109	±46	±92	±91	±89	±97
OTRA	±69	±83	±121	±65	±112	±112	±112	±112
DOM	±95	±173	±219	±137	±286	±288	±289	±291
OEA								
PP	±54	±63	±84	±43	±96	±96	±92	±83
IND	±60	±79	±110	±56	±116	±115	±111	±120
ROAD	±98	±106	±111	±73	±133	±134	±137	±130
OTRA	±58	±89	±126	±71	±117	±117	±117	±117
DOM	±75	±108	±141	±88	±183	±208	±215	±241
OSA								
PP	±64	±49	±84	±43	±78	±80	±76	±106
IND	±63	±87	±207	±65	±146	±163	±189	±251
ROAD	±52	±61	±105	±42	±96	±97	±103	±96
OTRA	±69	±84	±121	±66	±112	±112	±112	±112
DOM	±113	±190	±255	±149	±309	±309	±310	±310

(b) 1985

	SO_2	NO_x	CO	CO_2	PM_{10}	$PM_{2.5}$	BC	OC
China								
PP	±50	±95	±82	±51	±93	±93	±83	±92
IND	±56	±113	±135	±52	±120	±109	±165	±154
ROAD	±61	±76	±75	±48	±113	±113	±114	±113
OTRA	±68	±144	±154	±71	±152	±152	±170	±170
DOM	±78	±174	±241	±135	±279	±291	±283	±328
India								
PP	±54	±104	±93	±47	±105	±105	±104	±71
IND	±53	±120	±211	±88	±177	±206	±190	±274
ROAD	±63	±74	±85	±50	±140	±141	±145	±136
OTRA	±67	±92	±86	±53	±139	±117	±110	±98
DOM	±97	±208	±265	±171	±319	±324	±321	±328
Japan								
PP	±41	±78	±74	±37	±83	±83	±65	±73
IND	±45	±82	±62	±42	±96	±102	±107	±124
ROAD	±31	±31	±59	±34	±69	±69	±71	±68
OTRA	±48	±123	±119	±62	±116	±116	±116	±116
DOM	±52	±66	±75	±44	±78	±75	±70	±111
SEA								
PP	±61	±81	±123	±43	±100	±101	±99	±200
IND	±61	±120	±268	±98	±178	±213	±202	±286
ROAD	±62	±79	±111	±52	±115	±115	±119	±113
OTRA	±77	±141	±122	±66	±151	±151	±151	±151
DOM	±114	±210	±237	±166	±316	±317	±318	±319
OEA								
PP	±60	±109	±95	±51	±97	±97	±96	±81
IND	±56	±108	±96	±57	±115	±114	±115	±116
ROAD	±109	±116	±120	±89	±150	±152	±157	±146
OTRA	±75	±126	±126	±71	±116	±116	±116	±116
DOM	±90	±108	±124	±82	±164	±163	±165	±171
OSA								
PP	±63	±69	±80	±39	±90	±92	±80	±76
IND	±57	±114	±240	±86	±176	±205	±214	±272
ROAD	±62	±72	±92	±50	±112	±112	±115	±112
OTRA	±62	±95	±103	±51	±88	±91	±109	±91
DOM	±115	±225	±286	±185	±340	±341	±341	±342

(c) 1955

	SO_2	NO_x	CO	CO_2	PM_{10}	$PM_{2.5}$	BC	OC
China								
PP	±126	±140	±129	±105	±131	±131	±124	±131
IND	±124	±160	±176	±101	±127	±121	±188	±166
ROAD	±91	±101	±90	±60	±145	±145	±146	±144
OTRA	±138	±182	±191	±118	±182	±182	±200	±200
DOM	±137	±268	±325	±225	±391	±397	±406	±426
India								
PP	±110	±128	±127	±91	±119	±119	±116	±127
IND	±103	±202	±305	±177	±263	±293	±272	±333
ROAD	±84	±84	±105	±56	±149	±150	±152	±146
OTRA	±139	±145	±138	±109	±185	±174	±170	±158
DOM	±162	±265	±315	±227	±377	±381	±377	±382
Japan								
PP	±109	±123	±124	±92	±144	±145	±135	±130
IND	±97	±125	±62	±88	±110	±114	±151	±128
ROAD	±52	±38	±66	±35	±81	±81	±83	±81
OTRA	±104	±122	±121	±107	±184	±173	±172	±155
DOM	±89	±167	±191	±144	±236	±276	±290	±307
SEA								
PP	±142	±121	±133	±100	±132	±134	±126	±124
IND	±137	±239	±333	±218	±310	±327	±323	±339
ROAD	±89	±91	±131	±69	±136	±136	±138	±134
OTRA	±147	±182	±163	±118	±191	±191	±191	±191
DOM	±183	±266	±282	±221	±369	±369	±369	±370
OEA								
PP	±112	±154	±145	±105	±146	±146	±142	±131
IND	±113	±137	±146	±100	±138	±138	±141	±152
ROAD	±108	±129	±130	±88	±164	±165	±169	±161
OTRA	-	-	-	-	-	-	-	-
DOM	±140	±167	±208	±143	±262	±290	±296	±318
OSA								
PP	±108	±108	±107	±87	±137	±138	±113	±118
IND	±144	±227	±329	±189	±274	±311	±313	±338
ROAD	±89	±78	±90	±64	±111	±111	±115	±111
OTRA	±143	±143	±155	±101	±129	±125	±139	±125
DOM	±180	±282	±336	±242	±394	±394	±394	±394

Table S3: Uncertainties [%] of emissions of NMVOC for each sector in China, India, Japan, Southeast Asia (SEA), East Asia other than China and Japan (OEA), and South Asia other than India (OSA) in 2015, 1985, and 1955. Abbreviations for sectors are the same as in Table S2 except for EXT = Extraction processes, SLV = Solvent and paint use, and WST = Waste treatment. Note that uncertainties of emissions from non-combustion sources in Japan based on MOEJ (2017) were not assessed in this study. For OTRA of OEA in 1955, no emissions were estimated.

	China	India	Japan	SEA	OEA	OSA
2015						
PP	±75	±110	±90	±120	±80	±86
IND	±101	±111	±39	±136	±246	±144
ROAD	±81	±107	±52	±120	±108	±132
OTRA	±131	±151	±146	±150	±154	±151
DOM	±247	±257	±62	±255	±205	±261
EXT	±130	±125	-	±132	±141	±136
SLV	±150	±149	-	±156	±142	±146
WST	±173	±186	-	±192	±188	±200
1985						
PP	±74	±85	±74	±126	±89	±75
IND	±94	±180	±45	±193	±156	±143
ROAD	±92	±103	±56	±122	±114	±118
OTRA	±154	±117	±149	±151	±154	±117
DOM	±284	±285	±70	±283	±155	±291
EXT	±135	±126	-	±131	±137	±139
SLV	±162	±162	-	±160	±160	±150
WST	±200	±200	-	±200	±200	±200
1955						
PP	±121	±100	±111	±131	±129	±120
IND	±169	±307	±129	±328	±316	±311
ROAD	±110	±102	±60	±154	±124	±117
OTRA	±191	±129	±116	±191	-	±163
DOM	±338	±335	±259	±330	±287	±339
EXT	±178	±168	-	±178	±182	±179
SLV	±162	±149	-	±159	±146	±150
WST	±245	±245	-	±245	±245	±245

Table S4: Uncertainties [%] of emissions of NH_3 for each sector in China, India, Japan, Southeast Asia (SEA), East Asia other than China and Japan (OEA), and South Asia other than India (OSA) in 2015, 1985, and 1955. Abbreviations for sectors are the same as in Table S2 except for MISC = Human (perspiration and respiration) and latrines. Note that uncertainties of emissions from agricultural sources based on REASv1.1 (Yamaji et al., 2004; Yan et al., 2003) were not assessed in this study. For OTRA of OEA in 1955, no emissions were estimated.

	China	India	Japan	SEA	OEA	OSA
2015						
PP	±133	±237	±149	±217	±113	±161
IND	±106	±155	±176	±177	±137	±145
ROAD	±117	±117	±114	±145	±119	±142
OTRA	±163	±170	±164	±170	±174	±170
DOM	±261	±261	±110	±261	±287	±262
MISC	±130	±131	±131	±131	±131	±131
1985						
PP	±140	±128	±157	±276	±133	±134
IND	±99	±187	±202	±224	±138	±151
ROAD	±103	±121	±102	±125	±120	±131
OTRA	±174	±148	±168	±171	±174	±164
DOM	±290	±290	±130	±290	±282	±292
MISC	±132	±132	±132	±132	±132	±132
1955						
PP	±181	±153	±171	±154	±181	±171
IND	±122	±333	±186	±339	±309	±339
ROAD	±125	±154	±116	±180	±133	±160
OTRA	±210	±201	±202	±210	-	±184
DOM	±339	±339	±332	±337	±337	±339
MISC	±133	±133	±133	±133	±133	±133

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