

Carbon dioxide emissions and international trade at the turn of the millennium (Online Appendix)*

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Abstract

We present a new dataset of geographical production-, final (embodied) production-, and consumption-based carbon dioxide emission inventories, covering 78 regions and 55 sectors from 1997–2011. We extend previous work both in terms of time span and in bridging from geographical to embodied production and, ultimately, to consumption. We analyse the recent evolution of emissions, the development of carbon efficiency of the global economy, and the role of international trade. As the distribution of responsibility for emissions across countries is key to the adoption and implementation of international environmental agreements and regulations, the final production- and consumption-based inventories developed here provide a valuable extension to more traditional geographical production-based criteria.

JEL classification: Q56, F18.

Keywords: CO₂ accounting, CO₂ consumption, Trade and CO₂, GTAP, multiregion input-output analysis.

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Composite Regions	Countries
Rest of Andean Pact	Bolivia and Equador
Central America, Caribbean	Anguila, Antigua & Barbados, Aruba, Bahamas, Barbados Belize, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Netherlands Antilles, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago and Virgin Islands (GB)
Rest of EFTA	Iceland, Liechtenstein and Norway
Rest of Former Soviet Union	Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan
Middle East	Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Rep., United Arab Emirates and Yemen
Rest of North Africa	Algeria, Egypt, Libyan Arab Jamahiriya and Tunisia
Other Southern Africa	Angola and Mauritius
Rest of South African Customs Union	Lesotho, Namibia, South Africa and Swaziland
Rest of South America	Guyana, Paraguay and Suriname
Rest of South Asia	Bhutan, Maldives, Nepal and Pakistan
Rest of Sub-Saharan Africa	Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Mali, Mauritania, Mayotte, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Togo and Congo (DPR)
Rest of World	Afghanistan, Albania, Andorra, Bermuda, Bosnia and Herzegovina, Brunei, Cambodia, Faroe Islands, Fiji, French Polynesia, Gibraltar, Greenland, Guadeloupe, Kiribati, Lao (PDR), Macau, Macedonia (former Yugoslav Republic of), Marshall Islands, Micronesia, Monaco, Mongolia, Myanmar, Nauru, New Caledonia, Korea (DPR), Papua New Guinea, San Marino, Solomon Islands, Tonga, Tuvalu, Vanuatu, Western Samoa, Rest of former Yugoslavia

Table 1: Definition of GTAP composite regions Computations were performed using the disaggregation of each year. Afterwards, the composite regions for all the following GTAP releases were computed according to the regional aggregation of GTAP 5 for , the one retained for the analysis in our research. Countries which show up in later GTAP databases but not in GTAP 5 were assigned to the Rest of World composite region. Those countries are too small to change results, however. They are mainly small islands states or territories belonging to the jurisdiction of another country, which show up in one of the later composite regions (Wallis and Fortuna, for example). The only notable exceptions are Timor-Leste and Greenland.

Production:	International Energy Agency (IEA)										UNFCCC (Annex I countries)				
	all years	1997	2001	2004	2007	2011	all years	1997	2001	2004	2007	2011	all years	1997	2001
No. Sectors:	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No. Countries:	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
Avg. Difference:	13.42	16.95	8.77	12.61	14.47	14.32	12.90	12.10	10.52	13.14	13.94	14.81	13.14	13.94	14.81
Median Difference:	7.32	6.29	5.87	7.14	9.15	7.97	7.76	5.43	9.85	9.63	8.87	6.71	9.63	8.87	6.71
Stdv. Difference:	18.54	26.58	8.92	15.82	18.16	18.26	16.78	24.23	6.75	14.88	15.85	17.97	14.88	15.85	17.97
Min.:	0.02	0.36	0.37	0.32	0.11	0.02	0.04	0.11	0.43	0.04	0.35	0.38	0.04	0.35	0.38
Min. (country):	Zambia	Brazil	Malta	India	Colombia	Zambia	USA	New Zealand	Malta	USA	USA	Sweden	USA	USA	Sweden
Max.:	114.24	114.24	52.53	73.17	79.18	86.94	119.53	119.53	31.40	59.23	64.39	77.01	59.23	64.39	77.01
Max. (country):	Malta	Malta	R. Central America	Greece	R. EFTA	Greece	Malta	Malta	Ukraine	Greece	Greece	Greece	Greece	Greece	Greece
Production:	Emission Database for Atmospheric Research (EDGAR)										Carbon Dioxide Information Analysis Center (CDIAC)				
	all years	1997	2001	2004	2007	2011	2004	all years	1997	2001	2004	2007	all years	1997	2001
No. Sectors:	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	57	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No. Countries:	215	215	215	215	215	215	113	250	250	250	250	250	250	250	250
Avg. Difference:	16.18	17.88	13.02	15.33	16.41	18.26	11.82	15.59	18.24	11.84	15.53	16.75	11.84	15.53	16.75
Median Difference:	9.16	7.73	9.50	8.83	9.10	11.01	8.45	8.35	8.28	8.88	8.44	8.45	8.88	8.44	8.45
Stdv. Difference:	19.59	26.20	14.77	17.29	18.09	19.73	11.81	20.62	27.72	11.93	18.39	21.11	11.93	18.39	21.11
Min.:	0.09	0.21	0.12	0.53	0.09	0.59	0.04	0.04	0.04	0.14	0.10	0.42	0.04	0.10	0.42
Min. (country):	Finland	Taiwan	Zambia	Portugal	Finland	Slovenia	Switzerland	Poland	Poland	Hungary	Malaysia	Mozambique	Poland	Malaysia	Mozambique
Max.:	112.44	112.44	87.68	70.93	70.93	89.51	60.77	119.30	119.30	58.85	74.77	108.75	119.30	74.77	108.75
Max. (country):	Malta	Malta	Uganda	R. S-Africa	S-African Customs	Malta	Greece	R.o.W.	R.o.W.	R. South America	R. S-Africa	Singapore	R. South America	R. S-Africa	Singapore
Consumption:	The Eora World MRIO Database										DPC (2011)				
	all years	1997	2001	2004	2007	2011	2004	ARP (2014) (GTAP 8)	ARP (2014) (WIOD)	2007	2007	2007	2007	2007	2007
No. Sectors:	25	25	25	25	25	25	57	57	57	57	57	57	57	57	57
No. Countries:	187	187	187	187	187	187	113	113	113	113	113	113	113	113	113
Avg. Difference:	42.65	44.88	46.34	43.59	39.22	39.21	7.81	9.16	5.32	5.32	5.32	5.32	5.32	5.32	5.32
Median Difference:	25.50	25.99	28.50	25.87	21.26	24.38	6.20	7.96	4.68	4.68	4.68	4.68	4.68	4.68	4.68
Stdv. Difference:	44.84	48.23	46.69	47.34	42.47	39.50	6.44	8.35	4.33	4.33	4.33	4.33	4.33	4.33	4.33
Min.:	0.30	0.71	0.30	1.82	0.45	0.63	0.42	0.12	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Min. (country):	M. East	Morocco	M. East	Denmark	Malta	Bulgaria	Latvia	Bulgaria	Japan	Japan	Japan	Japan	Japan	Japan	Japan
Max.:	195.80	190.76	195.80	193.71	195.54	188.57	27.85	44.68	22.72	22.72	22.72	22.72	22.72	22.72	22.72
Max. (country):	S-African Customs	Zambia	S-African Customs	S-African Customs	S-African Customs	S-African Customs	Greece	Luxembourg	Luxembourg	Luxembourg	Luxembourg	Luxembourg	Luxembourg	Luxembourg	Luxembourg

Table 2: Comparison with other databases: Table 2 compares our production- and consumption-based CO₂ inventories with comparable databases. Differences between the datasets are calculated as: $\delta_r = (e_r^a - e_r^b) / (e_r^a + e_r^b) \times 100$, where e_r^a denotes emissions inventories of region r from our database and e_r^b emission inventories of country r calculated from the external database.

^a DPC (2011): Production- and consumption-based CO₂ inventories calculated by [6] using GTAP 8 and WIOD datasets.

^b ARP (2014): Consumption-based CO₂ inventories calculated by [18] using GTAP 7.1 database.

Production:	all years	2001	2004	2007	2011
No. of Sectors:	55	55	55	55	55
No. of Countries:	varying	92	140	140	140
Avg. Difference:	0.00	0.00	0.00	0.00	0.00
Median Difference:	0.00	0.00	0.00	0.00	0.00
Stdv. of Difference:	0.00	0.00	0.00	0.00	0.00
Min.:	0.00	0.00	0.00	0.00	0.00
Min. (country):	Luxemb.	Singap.	Croatia	Luxemb.	Chile
Max.:	0.04	0.04	0.00	0.00	0.00
Max. (country):	China	China	Zambia	India	Malta
Final Production:	all years	2001	2004	2007	2011
No. of Sectors:	55	55	55	55	55
No. of Countries:	varies	92	140	140	140
Avg. Difference:	0.73	0.57	0.78	0.72	0.86
Median Difference:	0.41	0.25	0.49	0.42	0.49
Stdv. of Difference:	1.03	0.96	0.95	1.11	1.07
Min.:	0.00	0.00	0.01	0.01	0.02
Min. (country):	Uruguay	Uruguay	Chile	Philippines	Slovakia
Max.:	8.23	5.70	5.26	8.23	5.97
Max. (country):	Mozambique	Slovenia	Lithuania	Mozambique	Mozambique
Consumption:	all years	2001	2004	2007	2011
No. of Sectors:	55	55	55	55	55
No. of Countries:	varying	92	140	140	140
Avg. Difference:	0.55	0.33	0.63	0.55	0.69
Median Difference:	0.22	0.13	0.26	0.21	0.31
Stdv. of Difference:	0.93	0.53	0.97	0.94	1.14
Min.:	0.00	0.00	0.00	0.00	0.01
Min. (country):	Indonesia	Czech Rep.	Indonesia	France	Malta
Max.:	6.89	3.23	5.36	6.50	6.89
Max. (country):	R. of South America	R.o.W.	Tanzania	R. of South America	R. of South America

Table 3: Bias from MRIOT aggregation: Table 3 compares CO₂ inventories calculated from the aggregated MRIOT with 78 countries regions with the ones calculated from the full MRIOT. Differences between both datasets are calculated as: $\delta_r = (|e_r^a - e_r^f| * 2) / (e_r^a + e_r^f) [\times 100]$, where e_r^a denotes emissions inventories of region r calculated from the aggregated MRIOT and e_r^f emission inventories of country r calculated from the full MRIOT.

	1997	Australia	EU 15	EEU	China	Japan	USA	India	Canada	S. Korea	Russia	Brazil	M. East	Mexico	R.o.W.
Australia	74.19	4.15	0.19	1.74	4.12	4.33	0.30	0.50	1.87	0.17	0.20	0.53	0.15	0.15	7.57
EU 15	80.49	0.34	0.09	0.21	0.90	0.24	0.12	0.32	1.39	0.04	0.19	0.18	0.15	0.15	0.65
	0.25	86.76	0.90	0.55	1.29	3.25	0.22	0.35	0.33	0.47	0.41	0.76	0.16	0.16	4.28
EEU	2.90	74.22	4.52	0.70	2.96	1.86	0.87	2.41	2.61	1.26	4.20	2.79	1.68	1.68	3.86
	0.16	15.31	70.26	0.50	1.06	2.73	0.22	0.32	0.31	1.67	0.43	0.83	0.15	0.15	6.04
China	0.43	3.11	83.51	0.15	0.58	0.37	0.21	0.52	0.58	1.05	1.06	0.73	0.36	0.36	1.29
	0.35	4.22	0.20	79.56	3.18	5.27	0.17	0.37	0.77	0.22	0.22	0.55	0.12	0.12	4.81
Japan	3.70	3.34	0.92	93.64	6.75	2.79	0.62	2.32	5.55	0.55	2.14	1.89	1.09	1.09	4.01
	0.26	2.68	0.11	1.09	86.90	3.64	0.11	0.25	0.60	0.09	0.14	0.39	0.12	0.12	3.60
USA	1.07	0.81	0.19	0.49	70.42	0.74	0.15	0.61	1.66	0.09	0.50	0.51	0.44	0.44	1.15
	0.21	3.29	0.14	0.44	1.49	88.63	0.10	1.20	0.37	0.15	0.28	0.42	0.72	0.72	2.55
India	4.13	4.79	1.21	0.95	5.82	86.27	0.67	13.97	4.97	0.68	4.81	2.65	12.54	12.54	3.91
	0.15	2.94	0.12	0.54	1.21	2.66	87.92	0.18	0.24	0.28	0.10	0.92	0.07	0.07	2.66
Canada	0.45	0.67	0.17	0.18	0.73	0.40	94.16	0.32	0.51	0.20	0.28	0.90	0.19	0.19	0.64
	0.20	4.16	0.20	0.54	1.80	17.40	0.15	70.82	0.44	0.18	0.38	0.49	0.32	0.32	2.92
S. Korea	0.34	0.54	0.15	0.10	0.63	1.51	0.09	73.57	0.52	0.07	0.60	0.27	0.50	0.50	0.40
	0.46	5.33	0.50	2.75	3.17	5.21	0.30	0.52	72.94	0.37	0.39	0.96	0.26	0.26	6.84
Russia	0.67	0.58	0.32	0.45	0.93	0.38	0.15	0.45	72.67	0.12	0.51	0.45	0.34	0.34	0.79
	0.13	6.95	1.40	1.67	1.81	3.42	0.32	0.32	0.56	76.12	0.27	0.62	0.14	0.14	6.28
Brazil	0.65	2.68	3.17	0.96	1.87	0.88	0.58	1.00	1.96	91.12	1.24	1.04	0.67	0.67	2.55
	0.07	1.87	0.10	0.29	0.70	1.82	0.06	0.16	0.19	0.08	91.50	0.25	0.13	0.13	2.77
Middle East	0.07	0.13	0.04	0.03	0.13	0.09	0.02	0.09	0.13	0.02	77.63	0.08	0.11	0.11	0.21
	0.18	4.21	0.22	0.52	2.15	3.03	0.65	0.27	0.46	0.19	0.27	84.68	0.10	0.10	3.06
Mexico	0.58	0.99	0.31	0.18	1.35	0.48	0.72	0.50	0.99	0.13	0.76	85.60	0.27	0.27	0.76
	0.11	2.13	0.08	0.21	0.80	14.70	0.07	0.65	0.18	0.10	0.32	0.25	77.99	77.99	2.39
R.o.W.	0.12	0.18	0.04	0.03	0.18	0.83	0.03	0.44	0.14	0.03	0.33	0.09	79.29	79.29	0.21
	0.34	7.84	0.94	1.33	2.59	4.85	0.35	0.45	0.71	1.54	0.49	0.67	0.20	0.20	77.69
	4.39	7.62	5.36	1.93	6.75	3.16	1.61	3.47	6.32	4.64	5.73	2.82	2.39	2.39	79.58

Table 4: Exports and imports of embodied CO₂: 1997, 2007 and 2011. Selected regions and rest of the world Table 4 shows exports (rows) and imports (columns) of embodied CO₂ emissions among the most important Annex B and non-Annex B countries and with rest of world. The flows are denoted as shares of production of CO₂ of the exporting region (upper numbers) and shares of consumption of CO₂ of the importing region (lower numbers). On the diagonals the share of domestic production (upper number) and domestic consumption (lower numbers) are denoted.

a: Figures for EU-15 and EEU where computed excluding intra-group trade flows.
b: EEU excluding non-Annex B countries Cyprus and Malta.

	2007	Australia	EU 15	EEU	China	Japan	USA	India	Canada	S. Korea	Russia	Brazil	M. East	Mexico	R.o.W.
Australia		69.97	5.23	0.31	3.97	3.77	3.97	2.25	0.45	1.14	0.36	0.21	1.96	0.22	6.20
EU 15		72.77	0.46	0.17	0.35	1.14	0.23	0.68	0.31	0.98	0.10	0.23	0.50	0.19	0.50
		0.34	82.63	1.61	1.05	1.01	3.77	0.58	0.46	0.45	0.78	0.42	1.25	0.30	5.35
		3.15	66.27	8.21	0.84	2.75	1.99	1.58	2.82	3.46	1.98	4.19	2.91	2.35	3.89
EEU		0.19	15.24	71.44	0.75	0.58	2.39	0.34	0.33	0.22	1.31	0.24	0.96	0.20	5.83
		0.34	2.38	70.86	0.12	0.31	0.25	0.18	0.39	0.33	0.65	0.46	0.43	0.31	0.83
China		0.57	6.35	0.61	71.51	2.59	7.05	0.73	0.72	1.08	0.85	0.34	1.42	0.36	5.81
		8.51	8.10	4.97	91.62	11.22	5.91	3.16	6.98	13.41	3.44	5.36	5.24	4.53	6.73
Japan		0.41	3.35	0.34	2.83	81.24	4.31	0.34	0.39	1.12	0.39	0.17	0.89	0.31	3.91
		1.18	0.84	0.54	0.71	68.90	0.71	0.29	0.75	2.72	0.31	0.52	0.64	0.75	0.89
USA		0.18	2.59	0.18	0.56	0.65	90.78	0.21	1.17	0.32	0.13	0.21	0.47	0.71	1.85
		2.90	3.54	1.54	0.77	3.00	81.52	0.97	12.26	4.30	0.55	3.55	1.85	9.42	2.30
India		0.17	3.60	0.26	1.27	0.50	2.97	84.73	0.23	0.32	0.21	0.16	2.19	0.11	3.28
		0.60	1.09	0.49	0.39	0.52	0.59	86.63	0.54	0.93	0.20	0.60	1.92	0.33	0.90
Canada		0.25	5.03	0.35	1.38	1.21	19.52	0.40	66.19	0.54	0.26	0.25	0.76	0.55	3.32
		0.39	0.68	0.30	0.19	0.55	1.72	0.18	68.02	0.70	0.11	0.42	0.30	0.72	0.41
S. Korea		0.54	6.37	0.89	5.13	2.61	6.48	0.75	0.66	65.81	1.01	0.39	1.84	0.64	6.89
		0.61	0.61	0.54	0.49	0.85	0.41	0.24	0.49	61.16	0.31	0.46	0.51	0.60	0.60
Russia		0.14	8.03	1.63	1.37	0.86	2.73	0.42	0.25	0.40	76.01	0.29	1.22	0.15	6.49
		0.60	2.93	3.77	0.50	1.06	0.65	0.52	0.71	1.42	87.45	1.31	1.29	0.54	2.15
Brazil		0.16	4.74	0.31	1.76	0.76	3.73	0.28	0.35	0.40	0.41	80.39	0.98	0.39	5.35
		0.13	0.35	0.15	0.13	0.19	0.18	0.07	0.20	0.29	0.10	73.69	0.21	0.28	0.36
Middle East		0.33	5.92	0.47	1.72	1.97	4.13	1.68	0.39	0.74	0.36	0.30	76.40	0.25	5.34
		1.36	2.10	1.05	0.61	2.38	0.96	2.01	1.06	2.55	0.40	1.34	78.71	0.87	1.72
Mexico		0.09	1.65	0.10	0.44	0.33	12.51	0.11	0.65	0.16	0.07	0.18	0.40	81.27	2.04
		0.10	0.16	0.06	0.04	0.11	0.78	0.04	0.47	0.15	0.02	0.21	0.11	75.30	0.18
R.o.W.		0.54	8.97	0.99	2.75	1.76	5.33	0.88	0.56	0.67	1.19	0.53	1.58	0.33	73.93
		7.35	10.50	7.34	3.23	7.02	4.10	3.47	5.01	7.62	4.39	7.66	5.36	3.81	78.56

Table 4: Exports and imports of embodied CO₂: 1997, 2007 and 2011. Selected regions and rest of the World — continued.

	2011	Australia	EU 15	EEU	China	Japan	USA	India	Canada	S. Korea	Russia	Brazil	M. East	Mexico	R.o.W.
Australia		71.26	3.41	0.25	5.75	3.74	3.24	2.34	0.32	1.24	0.35	0.26	1.15	0.22	6.48
EU 15		70.76	0.36	0.15	0.37	1.15	0.21	0.54	0.23	1.05	0.09	0.21	0.26	0.19	0.50
		0.43	79.37	1.61	1.83	1.20	3.86	0.81	0.55	0.49	0.95	0.66	1.50	0.33	6.40
EEU		3.38	65.02	7.73	0.92	2.89	2.01	1.48	3.13	3.28	1.99	4.33	2.64	2.22	3.89
		0.24	15.35	69.81	1.30	0.66	2.46	0.49	0.39	0.28	1.50	0.35	1.13	0.21	5.84
		0.39	2.69	71.51	0.14	0.34	0.27	0.19	0.48	0.39	0.67	0.49	0.43	0.30	0.76
China		0.51	4.31	0.45	77.89	1.86	4.88	0.83	0.43	0.73	0.63	0.48	1.20	0.32	5.47
		9.35	8.27	5.07	91.33	10.53	5.95	3.54	5.72	11.37	3.08	7.36	4.95	5.05	7.78
Japan		0.39	2.59	0.27	3.23	82.89	3.17	0.43	0.28	0.92	0.34	0.23	0.77	0.25	4.23
		1.05	0.73	0.44	0.55	68.45	0.56	0.27	0.55	2.10	0.25	0.52	0.46	0.59	0.88
USA		0.25	2.97	0.21	0.99	0.80	88.34	0.30	1.20	0.35	0.18	0.30	0.61	0.88	2.63
		3.41	4.31	1.75	0.88	3.41	81.48	0.98	12.16	4.15	0.68	3.47	1.89	10.63	2.83
India		0.20	3.14	0.24	1.57	0.45	2.79	84.34	0.21	0.25	0.24	0.24	2.29	0.13	3.91
		0.88	1.45	0.65	0.44	0.61	0.82	86.58	0.67	0.95	0.28	0.88	2.28	0.48	1.34
Canada		0.30	5.78	0.37	2.53	1.28	15.41	0.65	66.61	0.60	0.31	0.40	1.00	0.63	4.13
		0.43	0.86	0.32	0.23	0.56	1.46	0.21	69.03	0.73	0.12	0.48	0.32	0.78	0.46
S. Korea		0.65	5.44	0.88	6.93	2.94	6.25	1.18	0.64	60.96	1.00	0.71	2.46	0.62	9.35
		0.81	0.71	0.67	0.55	1.13	0.52	0.34	0.58	64.47	0.33	0.74	0.69	0.67	0.90
Russia		0.15	6.73	1.46	1.97	0.80	2.40	0.56	0.20	0.39	78.67	0.39	1.11	0.16	5.02
		0.62	2.97	3.76	0.53	1.04	0.67	0.55	0.63	1.38	88.76	1.39	1.05	0.57	1.64
Brazil		0.13	3.23	0.22	2.55	0.74	2.59	0.35	0.29	0.31	0.28	83.49	0.96	0.23	4.63
		0.13	0.34	0.13	0.16	0.23	0.17	0.08	0.21	0.27	0.07	70.75	0.22	0.20	0.36
Middle East		0.38	5.27	0.44	2.65	2.11	3.69	1.87	0.36	0.74	0.39	0.42	75.04	0.25	6.41
		1.79	2.62	1.26	0.80	3.08	1.16	2.06	1.23	2.98	0.50	1.66	80.14	1.02	2.36
Mexico		0.15	1.76	0.12	0.87	0.38	12.83	0.19	0.77	0.20	0.11	0.36	0.39	79.03	2.85
		0.16	0.20	0.08	0.06	0.12	0.91	0.05	0.60	0.18	0.03	0.32	0.09	73.86	0.24
R.o.W.		0.54	7.06	0.82	3.68	1.63	4.44	1.05	0.51	0.61	0.91	0.68	1.58	0.31	76.18
		6.85	9.49	6.47	3.03	6.46	3.79	3.12	4.77	6.69	3.14	7.40	4.57	3.43	76.05

Table 4: Exports and imports of embodied CO₂: 1997, 2007 and 2011. Selected regions and rest of the World — continued.

Production of CO₂ by where consumed:

Consumption of CO₂ by where produced:

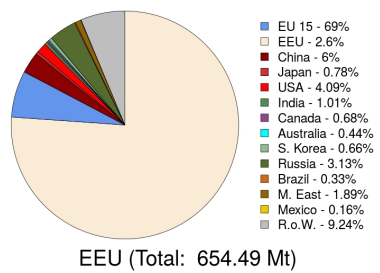
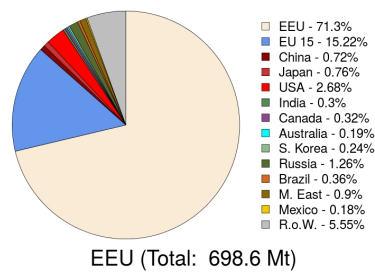
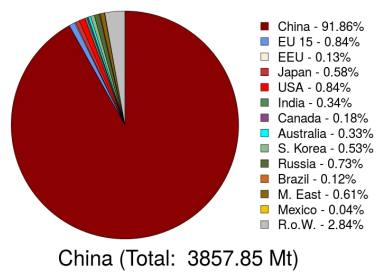
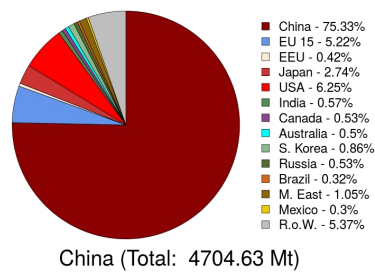
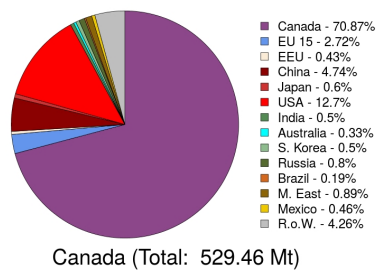
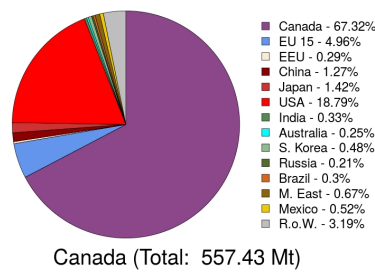
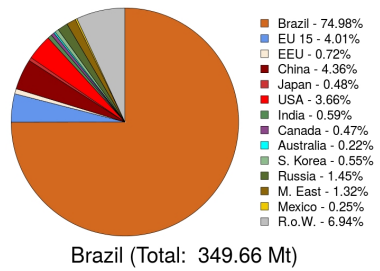
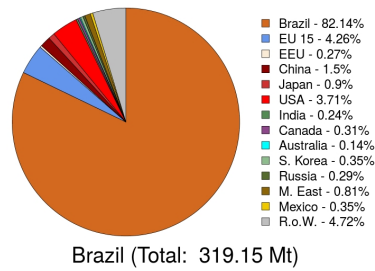
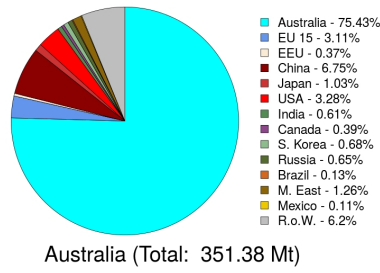
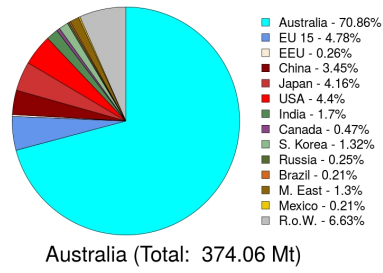


Figure 1: Composition of CO₂ emission inventories: Main reporters and partners (1997–2011 average) Plots on the left column show the composition of a country's CO₂ emissions embodied in goods and services by produced by region of destination. The right column of plots shows the shares of CO₂ emissions consumed in a country by region of origin.

Production of CO₂ by where consumed:

Consumption of CO₂ by where produced:

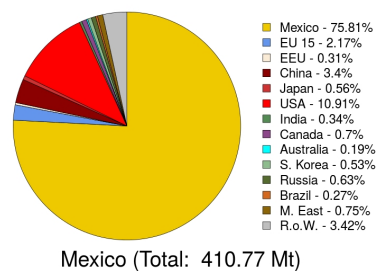
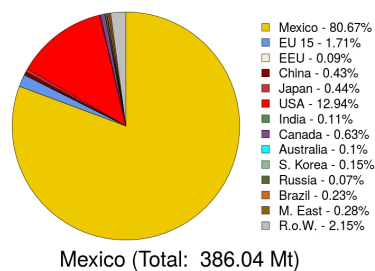
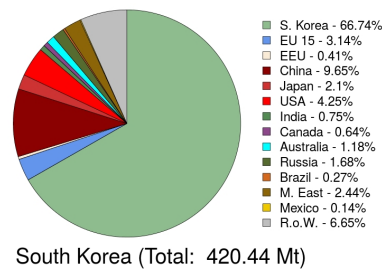
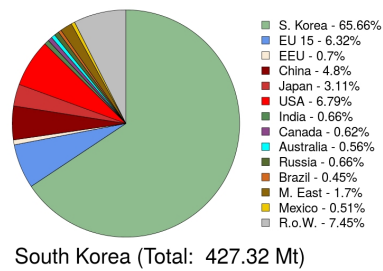
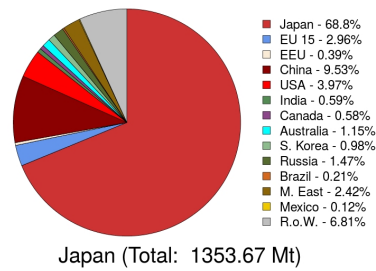
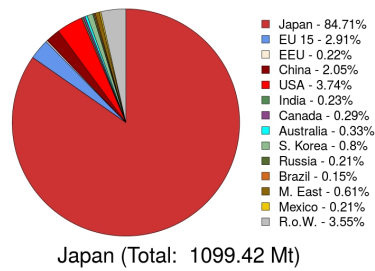
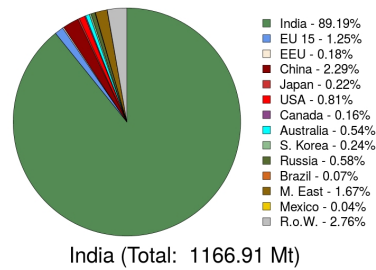
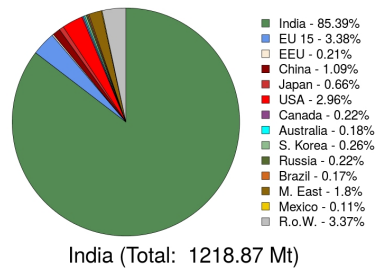
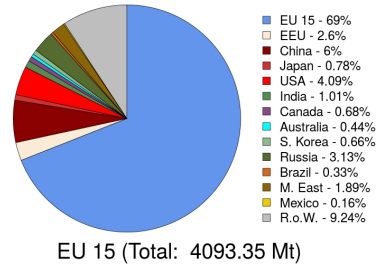
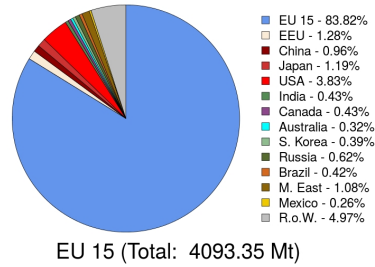


Figure 1 — continued.

Production of CO₂ by where consumed:

Consumption of CO₂ by where produced:

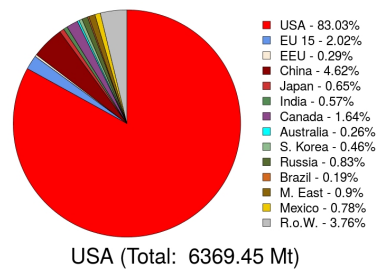
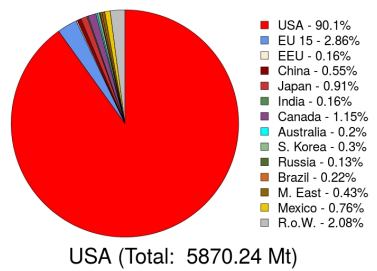
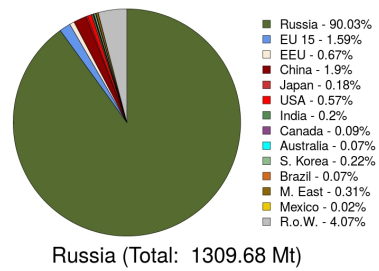
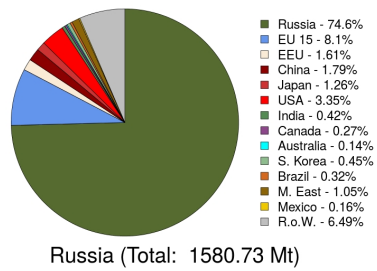
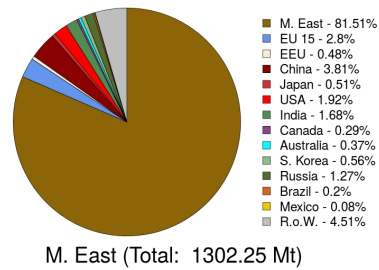
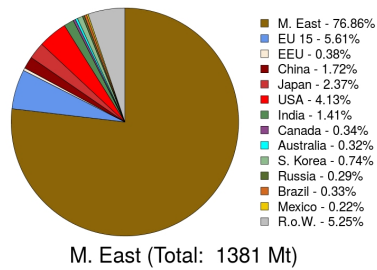


Figure 1 — continued.

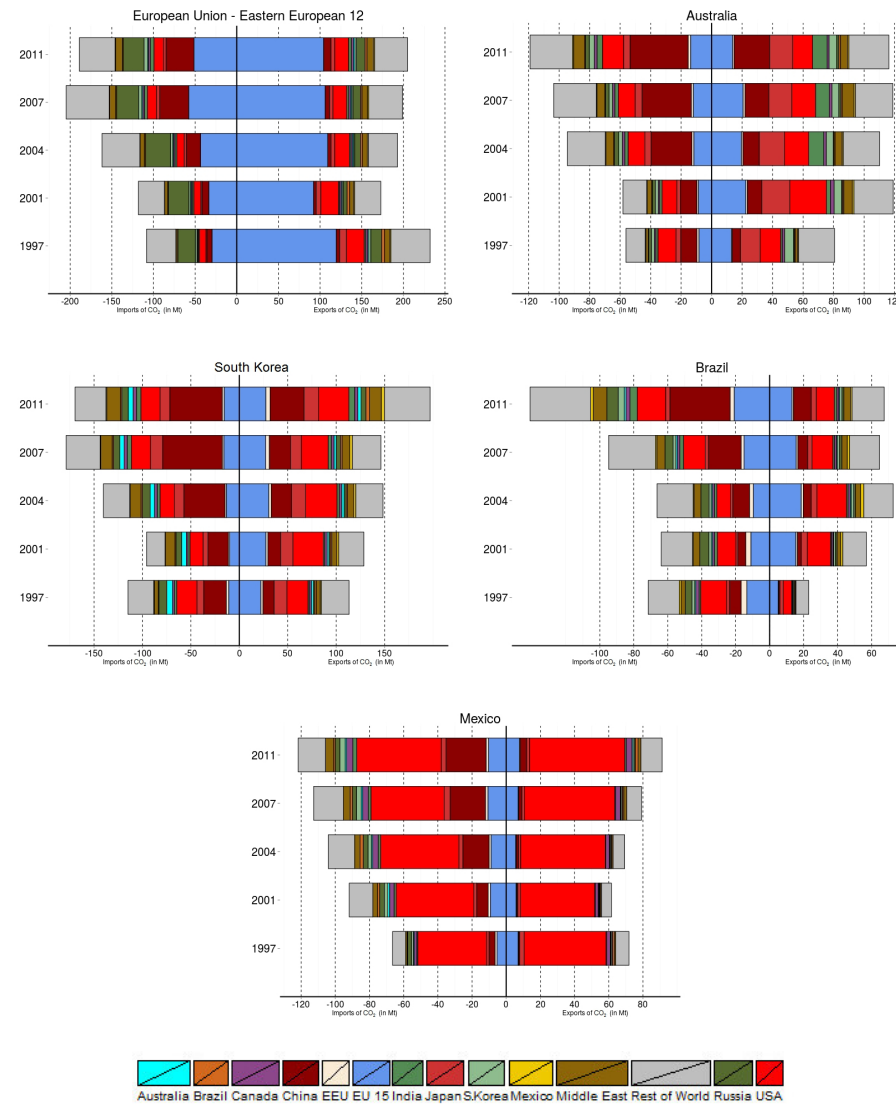


Figure 2: Carbon emissions embodied in international trade: Main reporters and partners The barplots show CO₂ emissions (Mt.) embodied in exports and imports, and their distribution amongst the main partners considered, in 1997, 2001, 2004, 2007, and 2011.