

Plan B 4.0 - Supporting Data for Chapter 8

[Extent of No-Tillage Agriculture Worldwide](#)

[Paper Recycling Rates for Top Ten Paper Producing Countries and the World](#)

[World Wood Production, 1961-2007](#)

GRAPH: World Wood Production, 1961-2007

[Wood Production in Africa, 1961-2007](#)

GRAPH: Wood Production in Africa, 1961-2007

[Wood Production in Asia, 1961-2007](#)

GRAPH: Wood Production in Asia, 1961-2007

[Wood Production in Europe, 1961-2007](#)

GRAPH: Wood Production in Europe, 1961-2007

[Wood Production in North and Central America, 1961-2007](#)

GRAPH: Wood Production in North and Central America, 1961-2007

[Wood Production in Oceania, 1961-2007](#)

GRAPH: Wood Production in Oceania, 1961-2007

[Wood Production in South America, 1961-2007](#)

GRAPH: Wood Production in South America, 1961-2007

[Plan B Budget: Additional Annual Funding Needed to Restore the Earth](#)

A full listing of data for the entire book is on-line at:

http://www.earthpolicy.org/index.php?/books/pb4/pb4_data

This is part of a supporting dataset for Lester R. Brown, **Plan B 4.0: Mobilizing to Save Civilization** (New York: W.W. Norton & Company, 2009). For more information and a free download of the book, see Earth Policy Institute on-line at www.earthpolicy.org.

Extent of No-Tillage Agriculture Worldwide

Country	Area under No-till Hectares
United States	26,593,000
Brazil	25,502,000
Argentina	19,719,000
Canada	13,481,000
Australia	12,000,000
Indo-Gangetic-Plains*	5,000,000
Paraguay	2,400,000
China	1,330,000
Kazakhstan	1,200,000
Bolivia	706,000
Uruguay	672,000
Spain	650,000
South Africa	368,000
Venezuela	300,000
France	200,000
Finland	200,000
Chile	180,000
New Zealand	162,000
Ukraine	100,000
Colombia	100,000
All Others (Estimate)	1,000,000
Total	111,863,000

*Note: Includes four countries in South Asia: India, Pakistan, Bangladesh, and Nepal.

Source: Rolf Derpsch and Theodor Friedrich, "Development and Current Status of No-till Adoption in the World," presentation for International Soil Tillage Research Conference, Izmir, Turkey, 16 June 2009.

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Paper Recycling Rates for Top Ten Paper Producing Countries and the World

Country	Paper Recovery Rate ¹
	Percent
South Korea	85
Japan	72
Germany	70
Sweden	66
France	54
United States	50
Italy	46
Canada ²	44
Finland	41
China	35
World Average	47

¹ Note: Paper recovery rate reflects 2002-2007 average of recovered paper and paperboard as a share of apparent consumption (production + imports - exports).

² Canada's Recovery Rate reflects an average from 2001-2006.

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization (FAO), *ForesSTAT Statistics Database*, at faostat.fao.org, updated 12 January 2009; Canada from Paper Recycling Association (Canada), "Paper Recycling Association: Overview of the Recycling Industry," at www.pppc.org/en/2_0/2_4.html, updated 18 September 2007.

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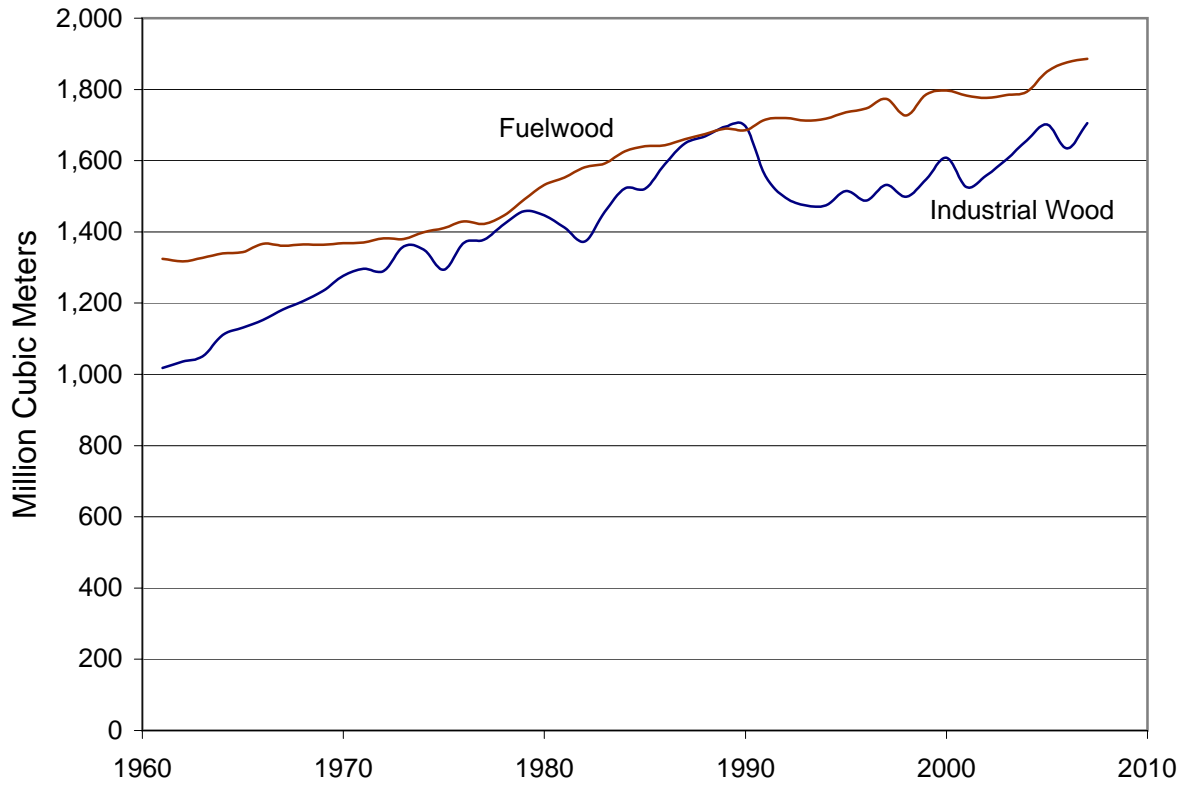
World Wood Production, 1961-2007

Year	Industrial Wood	Fuelwood	Total Wood Production	Fuelwood as Share of Total Wood Production
	Million Cubic Meters			Percent
1961	1,018	1,325	2,342	56.5
1962	1,036	1,317	2,353	56.0
1963	1,050	1,327	2,377	55.8
1964	1,111	1,340	2,451	54.7
1965	1,132	1,343	2,475	54.3
1966	1,153	1,367	2,520	54.2
1967	1,182	1,361	2,543	53.5
1968	1,206	1,365	2,571	53.1
1969	1,234	1,364	2,598	52.5
1970	1,276	1,368	2,644	51.7
1971	1,296	1,370	2,666	51.4
1972	1,290	1,382	2,672	51.7
1973	1,359	1,380	2,740	50.4
1974	1,351	1,399	2,749	50.9
1975	1,294	1,411	2,705	52.2
1976	1,370	1,429	2,799	51.1
1977	1,378	1,422	2,801	50.8
1978	1,422	1,447	2,868	50.4
1979	1,458	1,492	2,950	50.6
1980	1,446	1,532	2,978	51.4
1981	1,412	1,553	2,965	52.4
1982	1,372	1,581	2,954	53.5
1983	1,456	1,592	3,048	52.2
1984	1,522	1,626	3,148	51.7
1985	1,521	1,641	3,162	51.9
1986	1,590	1,644	3,234	50.8
1987	1,648	1,661	3,309	50.2
1988	1,668	1,674	3,343	50.1
1989	1,695	1,690	3,385	49.9
1990	1,696	1,685	3,382	49.8
1991	1,557	1,715	3,272	52.4
1992	1,496	1,720	3,216	53.5
1993	1,474	1,713	3,187	53.7
1994	1,475	1,718	3,192	53.8
1995	1,515	1,735	3,251	53.4
1996	1,487	1,746	3,234	54.0
1997	1,532	1,774	3,306	53.7
1998	1,498	1,727	3,225	53.5
1999	1,548	1,786	3,334	53.6
2000	1,608	1,797	3,405	52.8
2001	1,526	1,782	3,308	53.9
2002	1,559	1,776	3,335	53.3
2003	1,603	1,785	3,388	52.7
2004	1,657	1,793	3,450	52.0
2005	1,702	1,850	3,552	52.1
2006	1,635	1,876	3,511	53.4
2007	1,705	1,886	3,591	52.5

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization, *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

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World Wood Production, 1961-2007



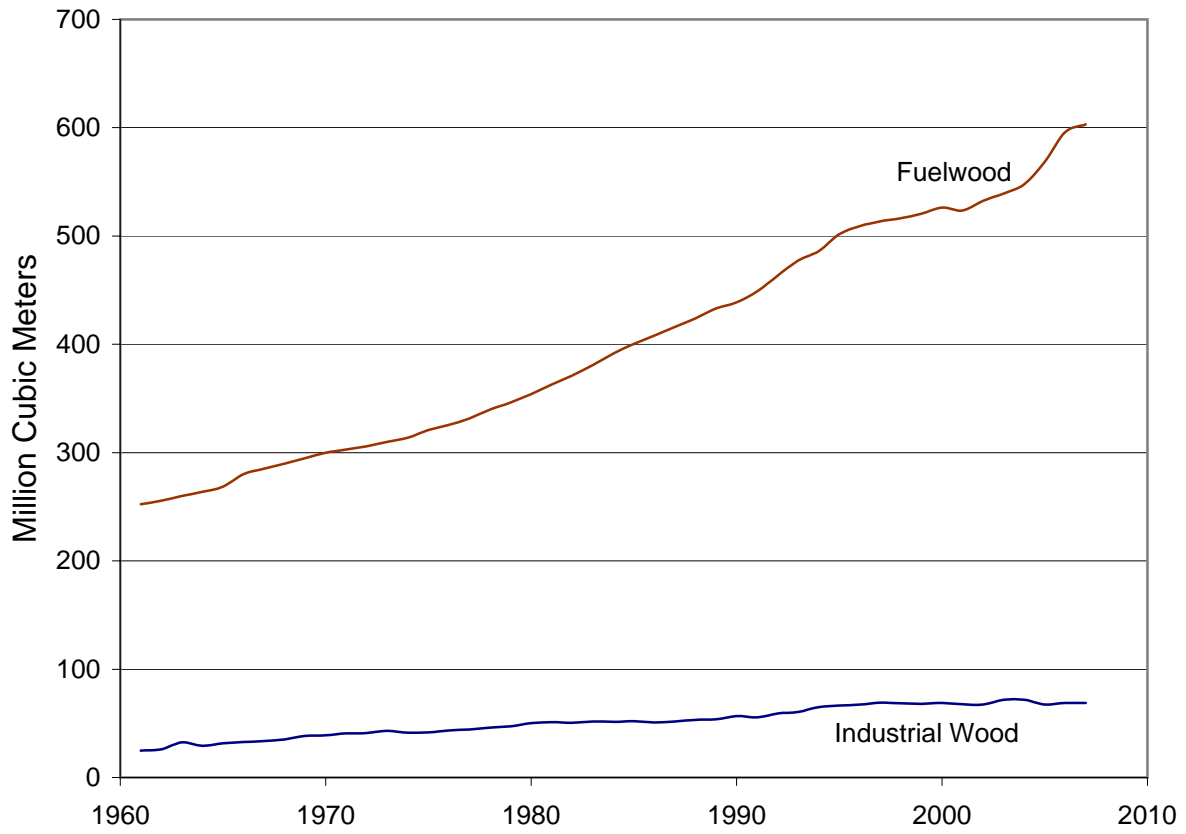
Source: FAO

Wood Production in Africa, 1961-2007

Year	Industrial	Fuelwood	Total Wood Production	Fuelwood as Share of Total
	Wood			Wood Production
	Million Cubic Meters			Percent
1961	25	252	277	91.1
1962	26	256	282	90.8
1963	33	260	293	88.9
1964	29	264	293	90.1
1965	32	268	300	89.5
1966	33	280	313	89.5
1967	34	285	319	89.5
1968	35	290	325	89.2
1969	38	295	333	88.5
1970	39	300	339	88.5
1971	41	303	344	88.1
1972	41	306	347	88.2
1973	43	310	353	87.8
1974	41	314	355	88.3
1975	42	321	363	88.5
1976	43	326	369	88.2
1977	44	331	376	88.2
1978	46	340	386	88.0
1979	47	346	393	88.0
1980	50	354	404	87.6
1981	51	363	414	87.7
1982	50	371	422	88.0
1983	52	381	433	88.0
1984	51	391	443	88.4
1985	52	400	452	88.5
1986	51	408	459	88.9
1987	52	416	468	89.0
1988	53	424	477	88.9
1989	54	433	487	89.0
1990	57	439	495	88.5
1991	56	449	504	89.0
1992	59	463	522	88.7
1993	60	478	538	88.8
1994	65	486	551	88.2
1995	66	502	568	88.3
1996	67	509	576	88.3
1997	69	514	583	88.1
1998	69	516	585	88.3
1999	68	521	589	88.4
2000	69	526	595	88.4
2001	68	524	591	88.6
2002	67	532	600	88.8
2003	72	539	611	88.2
2004	72	548	620	88.4
2005	67	569	636	89.4
2006	69	596	665	89.7
2007	69	603	672	89.7

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization (FAO), *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

Wood Production in Africa, 1961-2007



Source: FAO

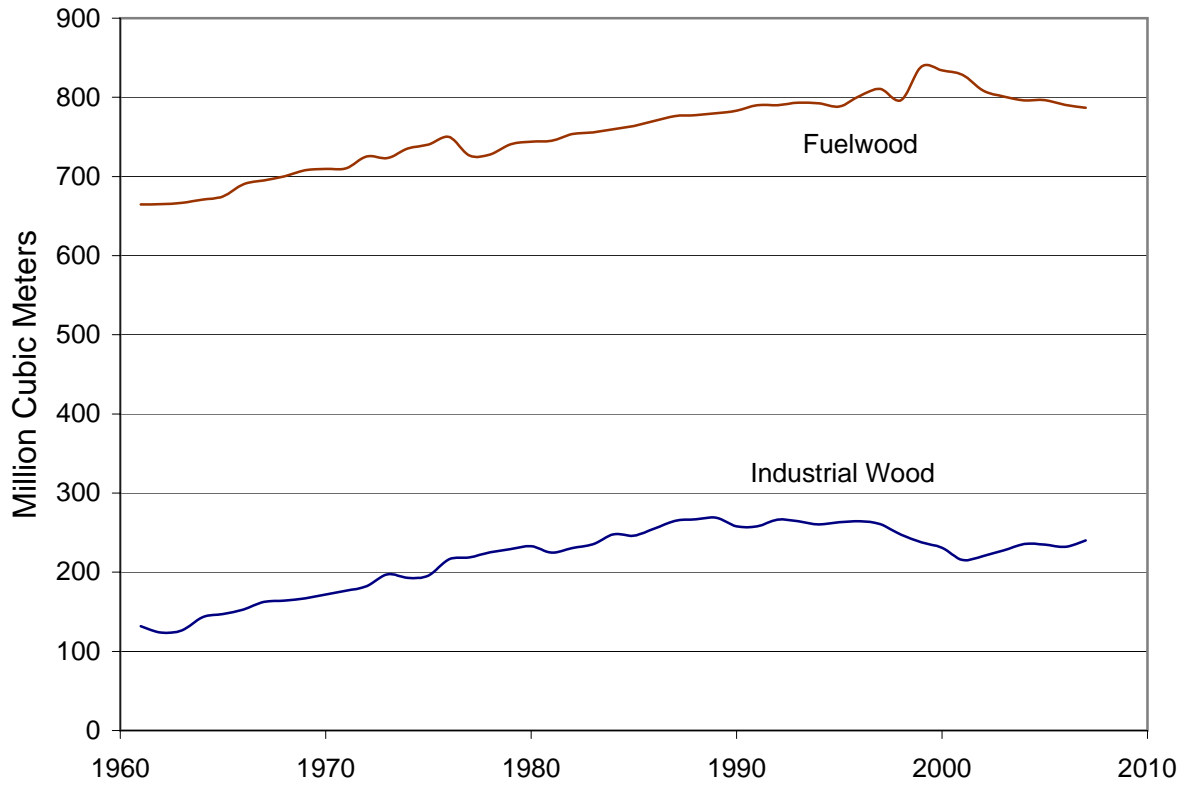
Wood Production in Asia, 1961-2007

Year	Industrial	Fuelwood	Total Wood Production	Fuelwood as Share of Total Wood Production
	Wood			Percent
	Million Cubic Meters			
1961	132	665	797	83.4
1962	124	665	788	84.3
1963	127	667	793	84.0
1964	143	671	814	82.4
1965	147	675	822	82.1
1966	153	690	843	81.9
1967	162	695	858	81.1
1968	164	700	864	81.0
1969	167	708	875	80.9
1970	172	710	881	80.5
1971	177	710	887	80.1
1972	182	725	908	79.9
1973	197	723	921	78.6
1974	193	735	928	79.2
1975	196	740	936	79.1
1976	216	750	966	77.6
1977	219	727	946	76.9
1978	225	728	953	76.4
1979	229	741	970	76.4
1980	233	744	977	76.2
1981	225	745	970	76.8
1982	231	754	984	76.6
1983	235	756	991	76.2
1984	248	760	1,008	75.4
1985	246	764	1,010	75.6
1986	255	770	1,025	75.1
1987	265	776	1,041	74.6
1988	267	777	1,044	74.4
1989	269	780	1,049	74.4
1990	258	783	1,041	75.2
1991	258	790	1,048	75.4
1992	266	790	1,057	74.8
1993	265	793	1,058	75.0
1994	260	792	1,053	75.3
1995	263	789	1,052	75.0
1996	265	802	1,066	75.2
1997	261	811	1,071	75.7
1998	248	797	1,044	76.3
1999	238	839	1,077	77.9
2000	231	834	1,065	78.3
2001	216	828	1,044	79.3
2002	220	809	1,029	78.6
2003	228	801	1,029	77.9
2004	236	796	1,032	77.1
2005	235	796	1,031	77.2
2006	232	790	1,023	77.3
2007	240	787	1,027	76.6

Source: Compiled by Earth Policy Institute from Elizabeth Mygatt, "Eco-Economy Indicator: Forest Cover--World's Forests Continue to Shrink," at www.earth-policy.org/Indicators/Forest/2006.htm, updated 4 April 2004, and from "U.N. Food and Agriculture Organization (FAO), *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

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Wood Production in Asia, 1961-2007



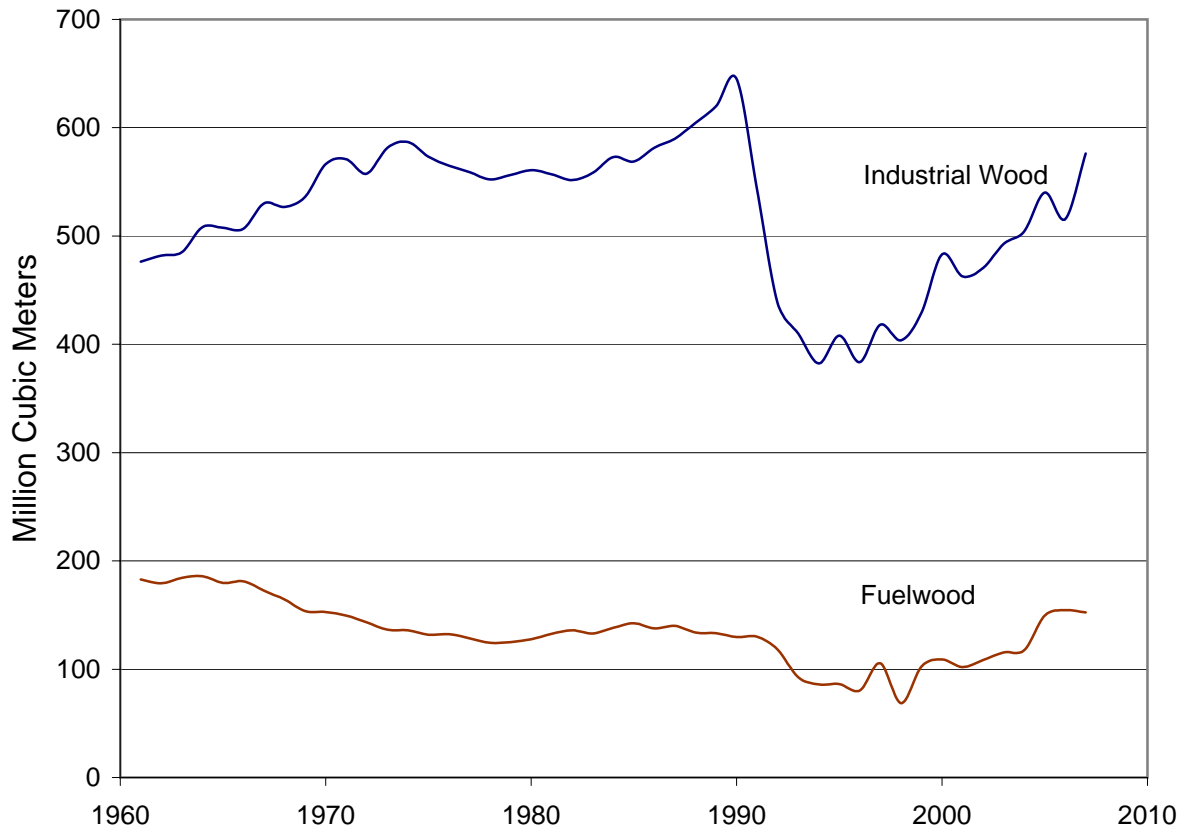
Source: FAO

Wood Production in Europe, 1961-2007

Year	Industrial		Total Wood	Fuelwood as
	Wood	Fuelwood	Production	Share of Total
	Million Cubic Meters			Wood Production
				Percent
1961	476	183	659	27.7
1962	482	179	662	27.1
1963	485	184	670	27.5
1964	508	186	694	26.8
1965	508	180	687	26.1
1966	507	181	688	26.3
1967	530	173	703	24.6
1968	527	164	691	23.8
1969	536	154	690	22.3
1970	567	153	719	21.3
1971	571	149	720	20.7
1972	557	143	701	20.5
1973	582	137	718	19.0
1974	587	136	723	18.8
1975	573	132	705	18.7
1976	565	132	697	19.0
1977	559	129	687	18.7
1978	552	124	677	18.4
1979	556	125	681	18.3
1980	561	128	689	18.5
1981	557	133	690	19.2
1982	552	136	688	19.7
1983	558	133	691	19.2
1984	573	138	711	19.4
1985	569	142	711	20.0
1986	581	138	719	19.1
1987	590	140	730	19.2
1988	605	134	738	18.1
1989	620	133	753	17.7
1990	645	130	775	16.7
1991	543	130	673	19.3
1992	438	118	556	21.3
1993	410	92	502	18.4
1994	382	86	468	18.3
1995	408	86	494	17.5
1996	383	80	464	17.3
1997	418	106	524	20.2
1998	404	69	472	14.5
1999	429	102	532	19.3
2000	483	109	592	18.4
2001	463	102	565	18.0
2002	470	108	579	18.7
2003	493	115	608	19.0
2004	504	118	622	18.9
2005	540	150	690	21.7
2006	516	154	670	23.1
2007	576	153	729	20.9

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization, *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

Wood Production in Europe, 1961-2007



Source: FAO

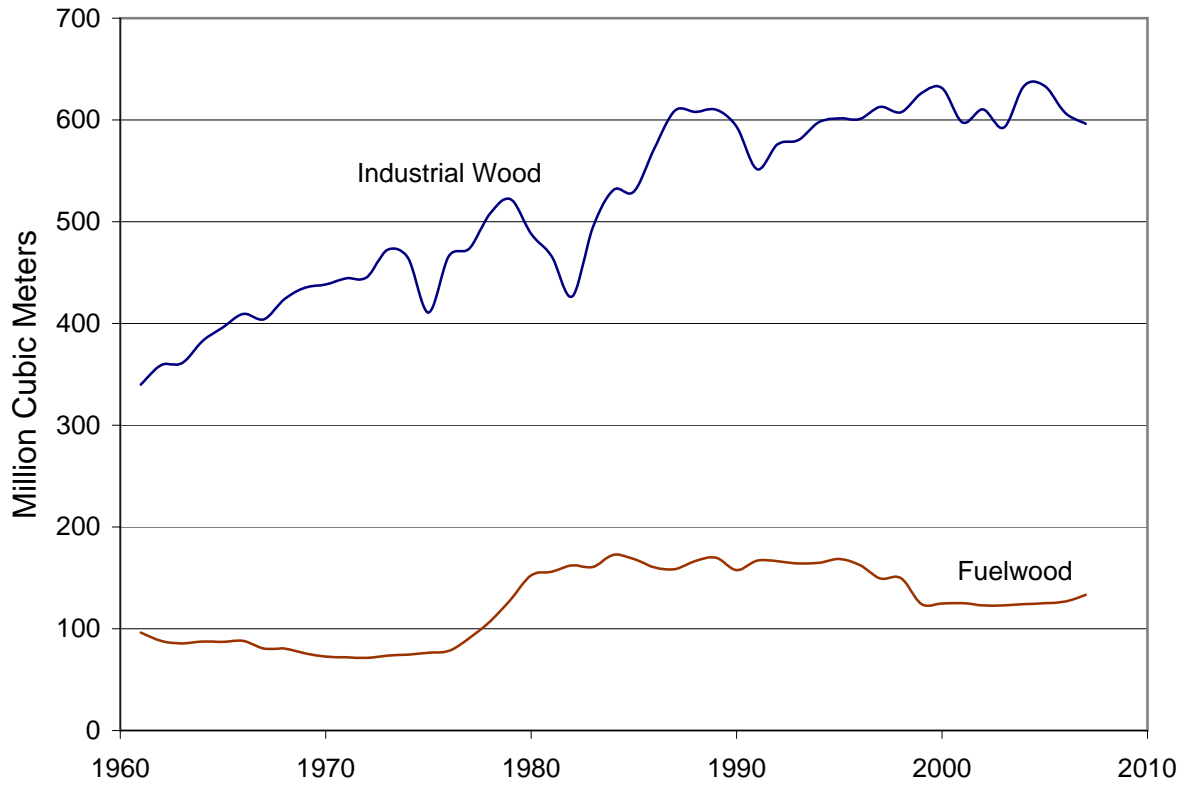
Wood Production in North and Central America, 1961-2007

Year	Industrial	Fuelwood	Total Wood	Fuelwood as
	Wood			Production
	Million Cubic Meters			Wood
				Production
				Percent
1961	340	96	436	22.1
1962	359	88	447	19.7
1963	361	86	447	19.2
1964	383	87	470	18.6
1965	396	87	483	18.0
1966	409	88	498	17.7
1967	404	81	485	16.6
1968	424	80	505	15.9
1969	435	76	511	14.8
1970	438	73	511	14.2
1971	444	72	516	13.9
1972	445	71	517	13.8
1973	472	74	546	13.5
1974	464	74	539	13.8
1975	411	77	487	15.7
1976	466	78	545	14.4
1977	473	91	564	16.1
1978	508	107	615	17.4
1979	522	128	650	19.8
1980	488	153	641	23.8
1981	466	156	622	25.1
1982	427	162	589	27.6
1983	495	161	655	24.5
1984	531	173	704	24.5
1985	530	168	698	24.1
1986	572	160	732	21.9
1987	609	158	768	20.6
1988	608	167	775	21.5
1989	610	170	780	21.8
1990	593	157	751	21.0
1991	551	167	718	23.2
1992	576	166	742	22.4
1993	580	164	744	22.1
1994	598	165	762	21.6
1995	602	169	770	21.9
1996	601	163	764	21.3
1997	613	149	762	19.6
1998	607	150	757	19.8
1999	626	124	751	16.6
2000	632	125	756	16.5
2001	597	125	723	17.3
2002	610	123	733	16.8
2003	592	123	715	17.2
2004	634	124	758	16.4
2005	633	125	759	16.5
2006	607	127	734	17.3
2007	596	133	729	18.3

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization (FAO), *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

This is part of a supporting dataset for Lester R. Brown, **Plan B 3.0: Mobilizing to Save Civilization** (New York: W.W. Norton & Company, 2008). For more information and a free download of the book, see Earth Policy Institute on-line at www.earthpolicy.org.

Wood Production in North and Central America, 1961-2007



Source: FAO

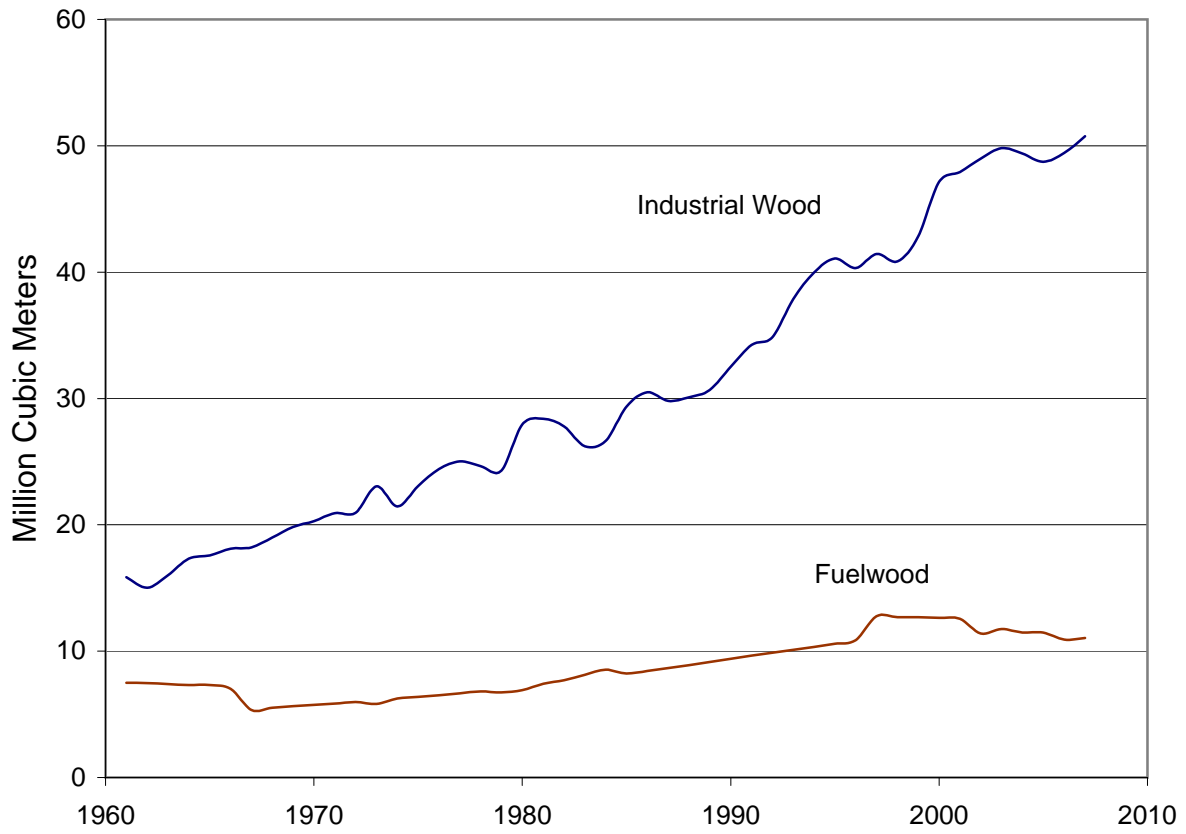
Wood Production in Oceania, 1961-2007

Year	Industrial	Fuelwood	Total Wood Production	Fuelwood as
	Wood			Share of Total Wood Production
	Million Cubic Meters			Percent
1961	16	7	23	32.1
1962	15	7	22	33.2
1963	16	7	23	31.6
1964	17	7	25	29.7
1965	18	7	25	29.4
1966	18	7	25	27.9
1967	18	5	24	22.7
1968	19	6	25	22.5
1969	20	6	25	22.1
1970	20	6	26	22.1
1971	21	6	27	21.9
1972	21	6	27	22.2
1973	23	6	29	20.2
1974	21	6	28	22.6
1975	23	6	29	21.7
1976	24	7	31	21.0
1977	25	7	32	21.0
1978	25	7	31	21.6
1979	24	7	31	21.7
1980	28	7	35	19.8
1981	28	7	36	20.7
1982	28	8	35	21.7
1983	26	8	34	23.6
1984	27	9	35	24.3
1985	29	8	38	21.9
1986	30	8	39	21.7
1987	30	9	38	22.5
1988	30	9	39	22.8
1989	31	9	40	23.0
1990	33	9	42	22.4
1991	34	10	44	22.0
1992	35	10	45	22.1
1993	38	10	48	21.1
1994	40	10	50	20.6
1995	41	11	52	20.5
1996	40	11	51	21.2
1997	41	13	54	23.5
1998	41	13	54	23.7
1999	43	13	56	22.9
2000	47	13	60	21.1
2001	48	13	60	20.8
2002	49	11	60	18.9
2003	50	12	62	19.1
2004	49	11	61	18.8
2005	49	11	60	19.1
2006	49	11	60	18.1
2007	51	11	62	17.9

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization (FAO), *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

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Wood Production in Oceania, 1961-2007



Source: FAO

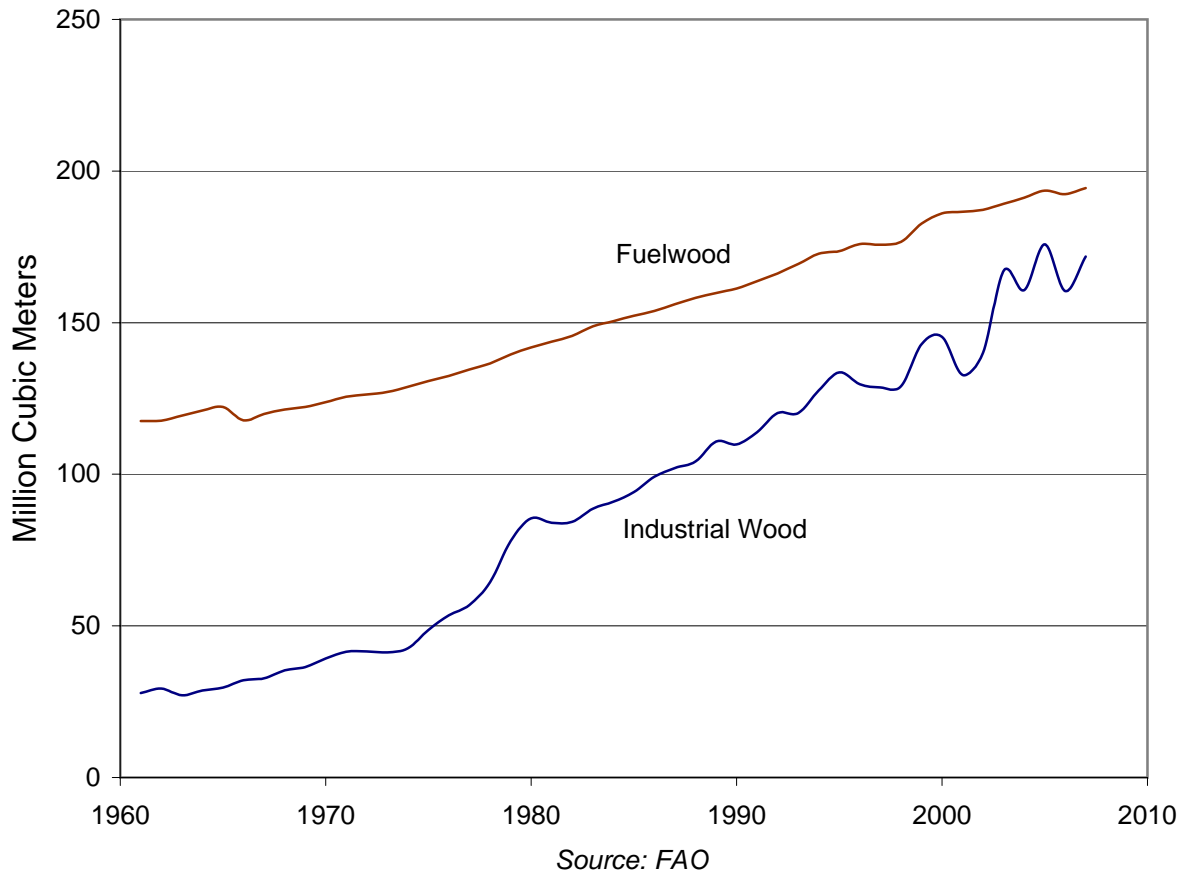
Wood Production in South America, 1961-2007

Year	Industrial	Fuelwood	Total Wood	Fuelwood as
	Wood			Production
Million Cubic Meters		Percent		
1961	28	118	145	80.9
1962	29	118	147	80.1
1963	27	119	147	81.5
1964	29	121	150	80.9
1965	30	122	152	80.4
1966	32	118	150	78.6
1967	33	120	153	78.6
1968	35	121	157	77.4
1969	36	122	159	77.0
1970	39	124	163	75.9
1971	41	126	167	75.2
1972	42	126	168	75.2
1973	41	127	168	75.5
1974	43	129	172	75.1
1975	49	131	179	72.9
1976	53	132	186	71.2
1977	57	135	191	70.3
1978	64	137	201	67.9
1979	78	139	217	64.1
1980	86	142	227	62.4
1981	84	144	228	63.1
1982	84	146	230	63.3
1983	89	149	237	62.7
1984	91	151	242	62.3
1985	94	152	246	61.8
1986	99	154	253	60.8
1987	102	156	258	60.5
1988	104	158	262	60.3
1989	111	160	270	59.0
1990	110	161	271	59.5
1991	114	164	278	59.0
1992	120	166	286	58.0
1993	120	169	290	58.5
1994	128	173	300	57.5
1995	134	174	307	56.5
1996	130	176	306	57.6
1997	129	176	304	57.7
1998	129	177	306	57.8
1999	143	183	326	56.1
2000	145	186	331	56.1
2001	133	187	319	58.4
2002	140	187	327	57.2
2003	167	189	356	53.1
2004	161	191	352	54.3
2005	176	194	369	52.4
2006	160	192	353	54.5
2007	172	194	366	53.1

Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization (FAO), *ForesSTAT*, electronic database, at faostat.fao.org, updated 10 August 2009.

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Wood Production in South America, 1961-2007



Plan B Budget: Additional Annual Funding Needed to Restore the Earth

Activity	Funding
	Billion U.S. Dollars
Planting trees to reduce flooding and conserve soil	6
Planting trees to sequester carbon	17
Protecting topsoil on cropland	24
Restoring rangelands	9
Restoring fisheries	13
Protecting biological diversity	31
Stabilizing water tables	10
Total	110

Source: Compiled by Earth Policy Institute, with planting trees to reduce flooding and conserve soil and protecting topsoil on cropland from Lester R. Brown and Edward C. Wolf, "Reclaiming the Future," in Lester R. Brown et al., *State of the World 1988* (New York: W. W. Norton & Company, 1988), p. 174, using data from FAO, *Fuelwood Supplies in the Developing Countries*, Forestry Paper 42 (Rome: 1983); planting trees to sequester carbon from Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: Mitigation of Climate Change. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, U.K.: Cambridge University Press, 2007), pp. 543, 559; restoring rangelands from UNEP, *Status of Desertification and Implementation of the United Nations Plan of Action to Combat Desertification* (Nairobi: 1991), pp. 73–92; restoring fisheries from Andrew Balmford et al., "The Worldwide Costs of Marine Protected Areas," *Proceedings of the National Academy of Sciences*, vol. 101, no. 26 (29 June 2004), pp. 9694–97, protecting biological diversity from World Parks Congress, *Recommendations of the Vth IUCN World Parks Congress* (Durban, South Africa: 2003), pp. 17–19, and from World Parks Congress, "The Durban Accord," at www.iucn.org/themes/wcpa, viewed 19 October 2007; stabilizing water tables is author's estimate.

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