

GLOBAL MACROECONOMIC SCENARIOS AND WORLD TRADE STATISTICS AND FORECAST

FOR THE
PANAMA CANAL AUTHORITY

Contract SAA-146531

Comparison of World Sea Trade Outlooks: 2001 and 2005

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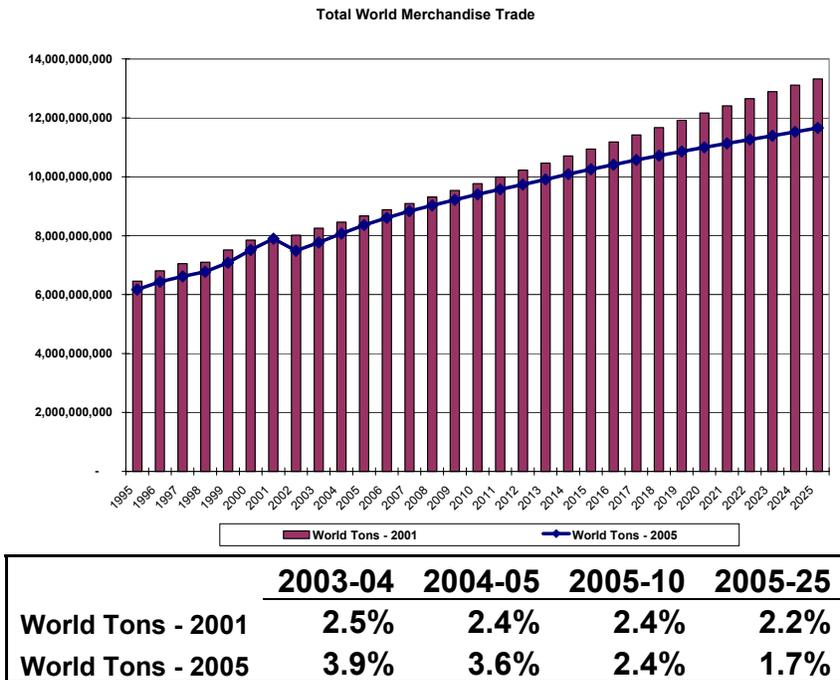
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World Sea Trade Totals

Between 2001 and the present study, the forecast for total world trade in tons has shifted somewhat lower. In the history, revised trade statistics have indicated that actual tonnage was lower for the period 1995-2000 than previously estimated, and, the lowering starting point for the 2005 forecast is, in part, responsible for the lower levels in 2025.

Also, the growth rates for total trade have changed slightly since 2001, with higher growth seen in the years 2003-2005, as shown in the chart and accompanying tables below.



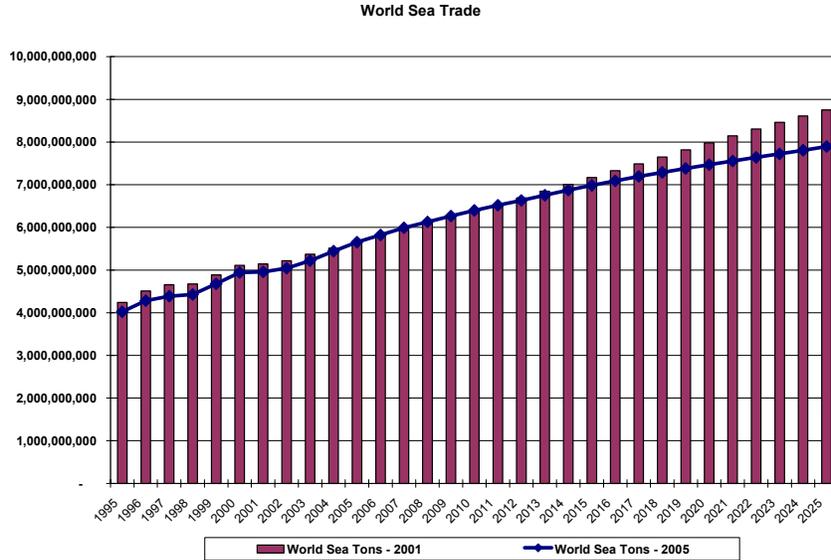
Millions of Tons	1995	1996	1997	1998	1999	2000
World Tons - 2001	6,460.80	6,804.26	7,050.80	7,099.90	7,515.02	7,849.18
World Tons - 2005	6,820.95	7,175.77	7,433.93	7,564.35	7,898.21	8,328.37
	2001	2002	2003	2004	2005	
World Tons - 2001	7,897.74	8,019.33	8,254.89	8,461.92	8,668.70	
World Tons - 2005	8,751.90	8,301.64	8,601.30	8,903.19	9,205.56	
	2006	2007	2008	2009	2010	
World Tons - 2001	8,881.30	9,093.95	9,315.65	9,540.33	9,765.10	
World Tons - 2005	9,452.74	9,697.33	9,899.79	10,102.32	10,303.73	
	2011	2012	2013	2014	2015	
World Tons - 2001	9,996.63	10,229.14	10,464.76	10,703.70	10,940.38	
World Tons - 2005	10,488.83	10,670.66	10,866.87	11,067.03	11,251.19	
	2016	2017	2018	2019	2020	
World Tons - 2001	11,182.17	11,422.99	11,669.14	11,918.43	12,167.12	
World Tons - 2005	11,424.38	11,597.93	11,758.88	11,912.82	12,063.22	
	2021	2022	2023	2024	2025	
World Tons - 2001	12,411.75	12,654.07	12,889.26	13,112.21	13,321.67	
World Tons - 2005	12,206.02	12,349.12	12,488.94	12,643.41	12,804.68	

The difference in 2025 is approximately 0.5 billion tons of cargo.

The revised, lower trade projections stem from the lower rates of economic growth expected in the long term and from the downturn in 2002. While the near term growth rates for most industrialized economies are reasonably strong by historical standards, the models now predict slightly slower growth in the longer term than in the 2001 study. See the comparison of the two macroeconomic forecasts from 2001 and 2005 ("Comparison of Macroeconomic Forecasts: 2001 and 2005").

Total Sea Trade - Tons

Trade on the seas is now predicted to follow the 2001 study path through about 2010 after which the revised 2005 forecast calls for slower growth in line with the expected slower economic growth. This is shown in the chart below,



and in the following growth rate table. In short, the new forecast calls for higher growth in the short term, followed by slower growth in the out years. This results in total sea trade being lower in 2005 by approximately 850 million tons of cargo.

	2003-04	2004-05	2005-10	2005-25
World Sea Tons - 2001	2.6%	2.5%	2.5%	2.2%
World Sea Tons - 2005	4.3%	3.8%	2.5%	1.7%

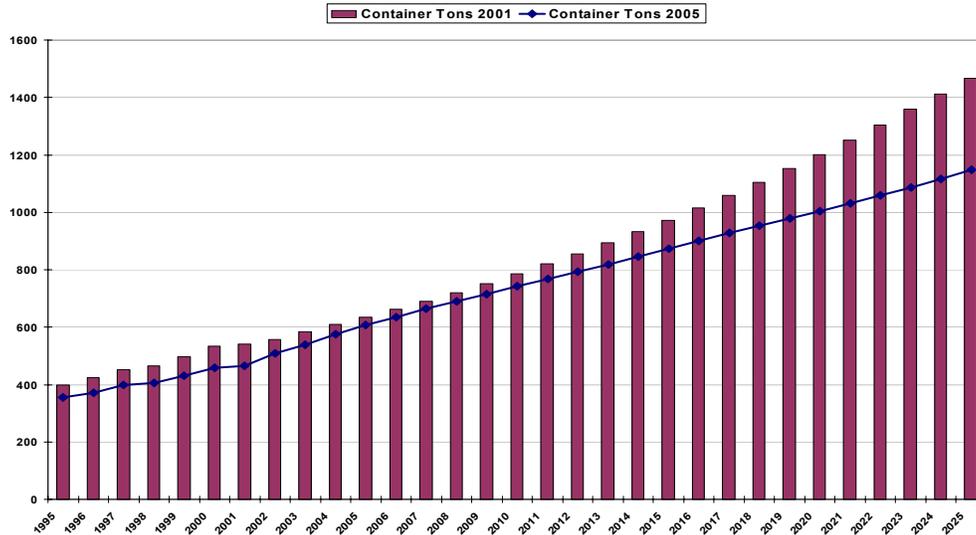
The following table shows the absolute volumes of sea cargo, at the world level, for the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
World Sea Tons - 2001	4,242.14	4,511.53	4,657.33	4,672.45	4,885.98	5,109.93
World Sea Tons - 2005	4,020.04	4,283.83	4,386.94	4,428.00	4,678.38	4,942.46
	2001	2002	2003	2004	2005	
World Sea Tons - 2001	5,145.23	5,221.20	5,371.68	5,509.95	5,648.75	
World Sea Tons - 2005	4,958.23	5,040.97	5,221.05	5,443.77	5,651.88	
	2006	2007	2008	2009	2010	
World Sea Tons - 2001	5,789.75	5,933.03	6,080.81	6,230.60	6,382.72	
World Sea Tons - 2005	5,824.67	5,988.61	6,128.53	6,266.94	6,399.22	
	2011	2012	2013	2014	2015	
World Sea Tons - 2001	6,537.55	6,692.96	6,850.42	7,008.13	7,166.58	
World Sea Tons - 2005	6,517.88	6,633.07	6,751.83	6,873.00	6,984.83	
	2016	2017	2018	2019	2020	
World Sea Tons - 2001	7,326.58	7,488.07	7,651.06	7,816.18	7,980.59	
World Sea Tons - 2005	7,090.56	7,194.81	7,290.17	7,381.76	7,470.94	
	2021	2022	2023	2024	2025	
World Sea Tons - 2001	8,142.86	8,304.64	8,462.30	8,612.10	8,753.36	
World Sea Tons - 2005	7,556.58	7,640.49	7,722.54	7,808.27	7,894.96	

Total Containerized Trade - Tons, TEUs

Containerized trade since 2001 has grown faster than originally estimated in 2001, partly through continued and faster rates of containerization and through the exploding consumer goods trade between the North America and China. The revised trade data for the historical period show that containerized tons were lower than originally estimated, but, from this lower point, strong growth in international sea trade has brought the level almost up to the tonnage expected in the 2001 study, at this point in the forecast period (2005). The lower-term growth rates are expected to slow, however, in view of the slower growth in world economies, including China.

Forecast Comparison Vintage 2001 and 2005
World Total Container Trade (Millions Metric Tons)



The following table shows the shifts in the growth rates, comparing the results of the two studies. The gains in the near term are later lost as growth slows. By 2025, the difference in the two studies' final year projections is 318 million tons.

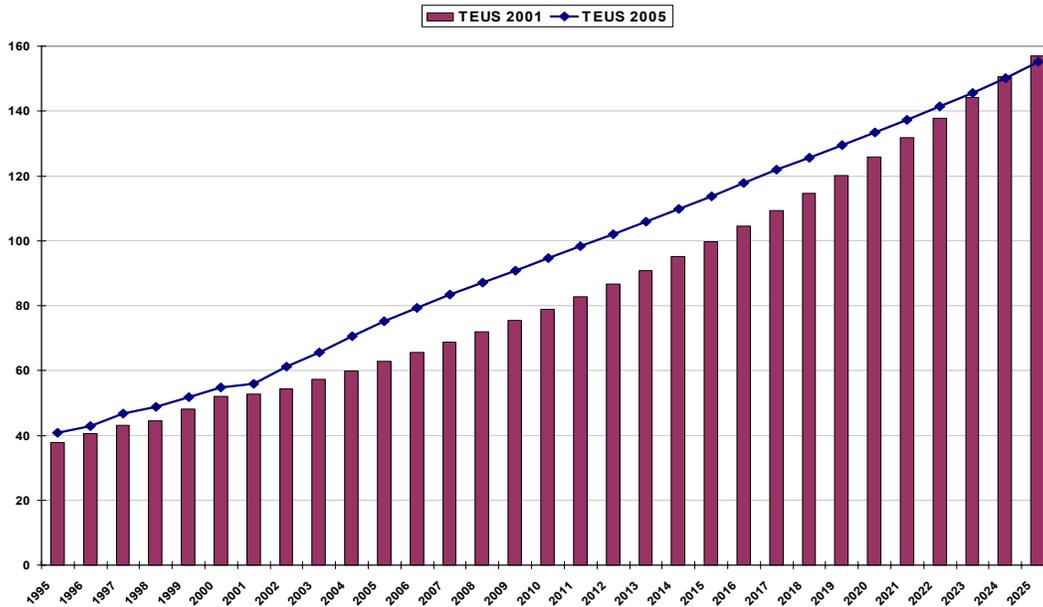
	2003-04	2004-05	2005-10	2005-25
Container Tons 2001	4.3%	4.3%	4.3%	4.3%
Container Tons 2005	6.7%	5.6%	4.1%	3.2%

The absolute levels of container tons each year through 2025, in each study, is displayed in the following table in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Container Tons 2001	398.71	424.64	451.25	464.5	498.41	534.82
Container Tons 2005	354.56	372.41	398.35	406.32	431.08	457.63
	2001	2002	2003	2004	2005	
Container Tons 2001	541.96	557.17	584	609.31	635.39	
Container Tons 2005	465.30	508.68	538.81	575.04	607.19	
	2006	2007	2008	2009	2010	
Container Tons 2001	662.4	690.77	720.83	752.3	785.22	
Container Tons 2005	635.80	664.63	689.18	715.02	741.89	
	2011	2012	2013	2014	2015	
Container Tons 2001	819.85	855.65	893.26	932.18	972.65	
Container Tons 2005	767.27	793.02	819.12	845.98	872.81	
	2016	2017	2018	2019	2020	
Container Tons 2001	1,014.73	1,058.72	1,104.42	1,152.32	1,201.88	
Container Tons 2005	899.95	927.99	953.21	978.72	1,004.75	
	2021	2022	2023	2024	2025	
Container Tons 2001	1,252.63	1,304.95	1,358.48	1,412.46	1,466.71	
Container Tons 2005	1,031.16	1,058.32	1,086.07	1,116.49	1,148.74	

In terms of TEUs, the containerized sector shows a different pattern when comparing the two studies. This is shown in the TEU chart below. The continued, rapid pace of containerization of cargo since the 2001 study, coupled with revisions to the historical data, now show that the number of TEUs shipped throughout the world is higher than estimated in the 2001 work. Now, the outlook called for higher growth in this trade than previously estimated, resulting in a vastly larger volume of containers in the final year of the forecast. This is true regardless of the slowing in world economic growth over the forecast period.

Forecast Comparison Vintage 2001 and 2005
World Total Trade in TEUs (Millions)



Below is a table of the absolute volumes of TEUs historically and forecast, for each study, in millions of TEUs.

	1995	1996	1997	1998	1999	2000
TEUS 2001	37.78	40.48	43.18	44.56	48.09	51.96
TEUS 2005	40.90	42.98	46.70	48.89	51.83	54.82
	2001	2002	2003	2004	2005	
TEUS 2001	52.77	54.43	57.24	59.93	62.72	
TEUS 2005	55.82	61.27	65.57	70.58	75.18	
	2006	2007	2008	2009	2010	
TEUS 2001	65.62	68.68	71.93	75.35	78.95	
TEUS 2005	79.34	83.54	87.05	90.76	94.66	
	2011	2012	2013	2014	2015	
TEUS 2001	82.74	86.69	90.85	95.18	99.71	
TEUS 2005	98.33	102.09	105.86	109.74	113.68	
	2016	2017	2018	2019	2020	
TEUS 2001	104.45	109.43	114.63	120.11	125.82	
TEUS 2005	117.71	121.92	125.64	129.43	133.33	
	2021	2022	2023	2024	2025	
TEUS 2001	131.72	137.83	144.13	150.55	157.07	
TEUS 2005	137.30	141.42	145.65	150.26	155.15	

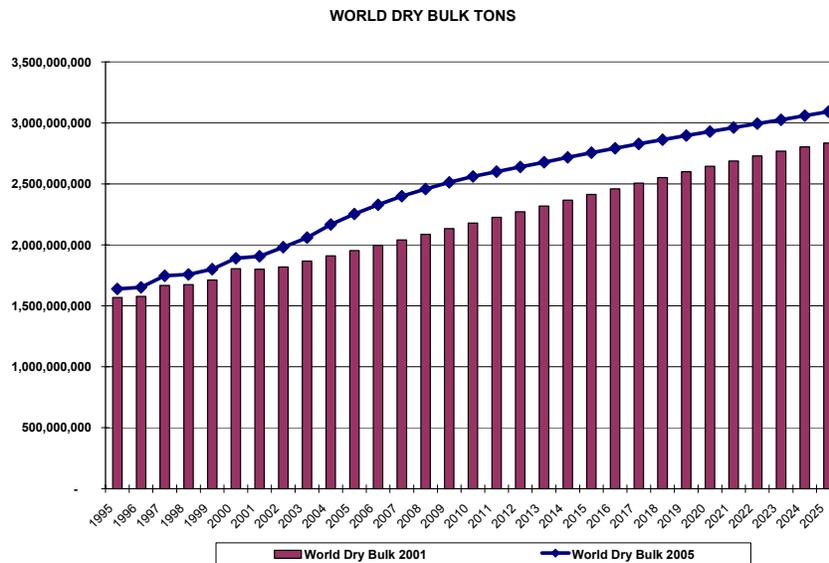
The current estimate for 2005 world TEUs (75 million full TEUs) is more than 13 million higher than in the 2001 study in view of the increase in containerization of cargo and the growth in particular container trades, such as North America to and from China.

The higher growth rates in the near term are somewhat ameliorated in the long term. Nevertheless, by 2025, the revised forecast shows that containers will be 2 million lower in the final year than foreseen in the 2001 study.

	2003-04	2004-05	2005-10	2005-25
World TEUS 2001	4.7%	4.7%	4.7%	4.7%
World TEUS 2005	7.6%	6.5%	4.7%	3.7%

Total Dry Bulk Trade - Tons

The outlook for dry bulk shipments worldwide is generally higher in the revised 2005 study, including revisions to historical data. The chart below compares the two study results and indicates that the new forecast (line) is higher throughout the period. However, the pattern of growth is slightly different in the new forecast to 2025, with considerably higher growth in the 2003-05 period, followed by slower growth in the long-term.



Below is a table of the world total in dry bulk shipping, in millions of metric tons, showing the annual volume in each of the two studies.

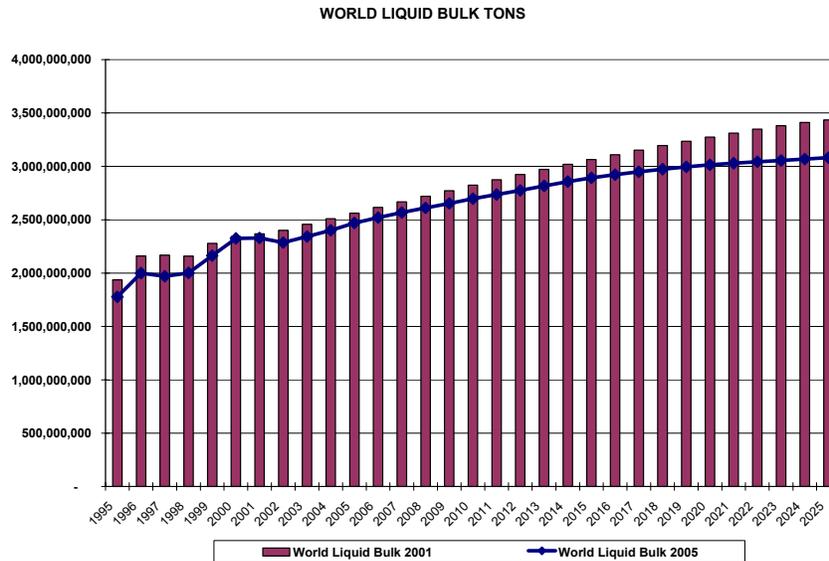
Millions of Tons	1995	1996	1997	1998	1999	2000
World Dry Bulk 2001	1,569.0	1,577.2	1,666.8	1,674.3	1,711.8	1,804.1
World Dry Bulk 2005	1,778.7	1,798.3	1,895.3	1,915.0	1,957.1	1,958.7
	2001	2002	2003	2004	2005	
World Dry Bulk 2001	1,800.9	1,818.3	1,866.6	1,909.6	1,952.9	
World Dry Bulk 2005	1,968.7	2,074.6	2,156.7	2,267.4	2,353.1	
	2006	2007	2008	2009	2010	
World Dry Bulk 2001	1,996.5	2,040.8	2,086.1	2,132.2	2,178.6	
World Dry Bulk 2005	2,427.7	2,497.6	2,554.2	2,607.4	2,655.0	
	2011	2012	2013	2014	2015	
World Dry Bulk 2001	2,225.3	2,272.2	2,319.3	2,366.2	2,413.0	
World Dry Bulk 2005	2,695.4	2,733.9	2,774.3	2,815.8	2,854.6	
	2016	2017	2018	2019	2020	
World Dry Bulk 2001	2,459.8	2,506.3	2,552.7	2,599.3	2,644.4	
World Dry Bulk 2005	2,891.5	2,928.3	2,963.0	2,996.5	3,029.6	
	2021	2022	2023	2024	2025	
World Dry Bulk 2001	2,687.8	2,729.5	2,768.4	2,803.7	2,835.1	
World Dry Bulk 2005	3,062.5	3,094.8	3,126.6	3,160.9	3,196.1	

The growth in China's imports of coal and iron ore is, of course, partially the cause of the upward revision to the data and to the forecast. In the long run, however, we do not foresee this increase continuing at the historical rates, and this is the reason that the two studies' projections of 2025 differ by only 9% of the original 2001 forecast.

	2003-04	2004-05	2005-10	2005-25
World Dry Bulk 2001	2.3%	2.3%	2.2%	1.9%
World Dry Bulk 2005	5.2%	4.0%	2.6%	1.6%

Total Liquid Bulk Trade - Tons

The new forecast (2005) calls for lower volumes throughout the period. This is due to several factors: (1) a revision to historical data, which has lowered the actual levels of historical liquid bulk trade, (2) slowing economic growth over time, so that the expected growth in the consumption of crude oil and petroleum products, and (3) higher crude oil prices in the baseline economic scenario will weaken demand (eventually) for this liquid bulk commodity.



Below is a table of the world total in liquid bulk shipping, in millions of metric tons, showing the annual volume in each of the two studies.

Millions of Tons	1995	1996	1997	1998	1999	2000
World Liquid Bulk 2001	1,935.5	2,159.9	2,167.0	2,158.6	2,278.5	2,342.4
World Liquid Bulk 2005	1,777.5	1,999.8	1,970.7	2,001.1	2,162.7	2,325.2
	2001	2002	2003	2004	2005	
World Liquid Bulk 2001	2,367.7	2,400.6	2,456.6	2,509.8	2,562.3	
World Liquid Bulk 2005	2,329.4	2,284.7	2,342.0	2,400.5	2,469.6	
	2006	2007	2008	2009	2010	
World Liquid Bulk 2001	2,615.0	2,667.1	2,719.9	2,771.7	2,823.1	
World Liquid Bulk 2005	2,519.1	2,567.4	2,609.8	2,653.3	2,696.4	
	2011	2012	2013	2014	2015	
World Liquid Bulk 2001	2,874.1	2,923.7	2,972.3	3,019.3	3,064.7	
World Liquid Bulk 2005	2,736.5	2,774.7	2,815.9	2,857.7	2,892.5	
	2016	2017	2018	2019	2020	
World Liquid Bulk 2001	3,109.2	3,152.5	3,194.9	3,235.7	3,274.8	
World Liquid Bulk 2005	2,922.3	2,950.0	2,974.2	2,995.6	3,014.6	
	2021	2022	2023	2024	2025	
World Liquid Bulk 2001	3,312.1	3,348.3	3,381.6	3,410.5	3,434.9	
World Liquid Bulk 2005	3,029.6	3,043.3	3,055.0	3,068.5	3,082.1	

The slightly higher growth rates that we have seen in the 1998-2000 period account for the "catch up" of world liquid bulk shipments from the lower actual history to the predicted 2001 forecast. However, the world recession created a drop in these shipments that was not foreseen in the 2001 study. Thereafter, as the major consuming economies or the world picked up speed, liquid bulk shipments kept pace with the 2001 study's expected growth rates. In the long term, however, we expect that liquid bulk shipments will slow down to an equilibrium rate that is slower than in the 2001 study projections.

This pattern of growth is shown in the table below, in which recent growth has exceeded the 2001 study, but the long-term rates are slower.

	2003-04	2004-05	2005-10	2005-25
World Liquid Bulk 2001	2.2%	2.1%	2.0%	1.5%
World Liquid Bulk 2005	2.5%	2.9%	1.8%	1.1%

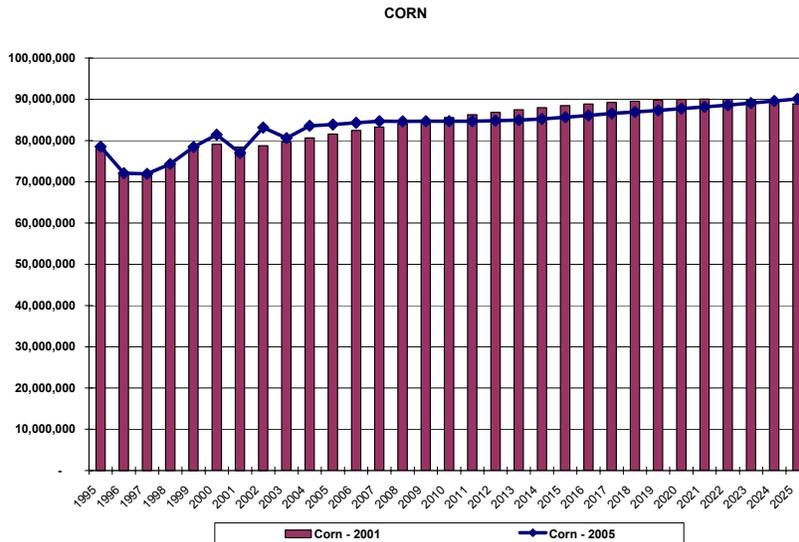
ACP Commodities

Each of the main commodities that were forecast in each of the two studies is compared here, 2001 versus 2005.

Containerized cargo has already been addressed at the world level, since it is not, strictly speaking, a commodity. See World Trade Totals, above.

Corn

Corn, as one of the heaviest dry bulk commodities in the world, amounted to 79 million tons in 2001 and 80.5 million tons in 2004. In other words, this is a commodity that is important overall but without much growth. The forecasts in both studies continue to show this modest growth, as shown in the chart below. As a result the final year of the forecast, 2025, shows almost the same expected tonnage worldwide for this commodity, namely 90 million metric tons.



Following is a table showing the annual volumes of corn shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Corn - 2001	78.36	71.82	71.72	73.90	78.05	79.10
Corn - 2005	78.54	72.09	71.94	74.33	78.48	81.40
	2001	2002	2003	2004	2005	
Corn - 2001	78.41	78.75	79.71	80.68	81.59	
Corn - 2005	76.97	83.13	80.63	83.57	83.88	
	2006	2007	2008	2009	2010	
Corn - 2001	82.47	83.30	84.10	84.88	85.59	
Corn - 2005	84.33	84.72	84.69	84.69	84.72	
	2011	2012	2013	2014	2015	
Corn - 2001	86.26	86.88	87.46	87.98	88.45	
Corn - 2005	84.71	84.82	84.96	85.25	85.66	
	2016	2017	2018	2019	2020	
Corn - 2001	88.87	89.24	89.55	89.82	90.01	
Corn - 2005	86.10	86.59	86.95	87.34	87.75	
	2021	2022	2023	2024	2025	
Corn - 2001	90.07	90.01	89.81	89.44	88.91	
Corn - 2005	88.18	88.62	89.11	89.59	90.08	

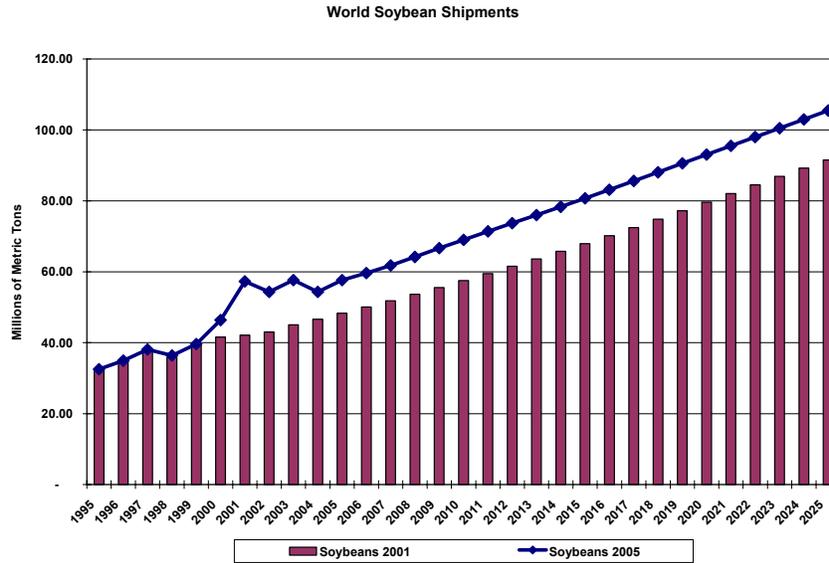
The differences in the growth rates between the two studies are shown in the chart below, which indicates the reason for the overall consistency between the two forecasts.

	2003-04	2004-05	2005-10	2005-25
Corn - 2001	1.2%	1.1%	1.0%	0.4%
Corn - 2005	3.6%	-3.0%	1.0%	0.5%

The up tick in global shipments in 2004 was, in effect, "cancelled" by the downturn in 2005.

Soybeans

Not foreseen in the 2001 study, world soybean shipments increased in 2001 beyond the forecast, as shown in the comparison below of the two forecasts for global soybean shipments. One of the factors affecting the change in outlook is the growth in China's imports, which were later stimulated by an investment deal in Brazil, through which Brazil is guaranteed a market for its soybean production. Indeed, for 2005, China has already purchased the entirety of Brazil's soybean crop.



Following is a table showing the annual volumes of soybean shipments worldwide in each of the two studies, in millions of metric tons.

	1995	1996	1997	1998	1999	2000
Soybeans 2001	32.31	34.72	37.67	35.80	39.16	41.58
Soybeans 2005	32.55	34.93	38.07	36.37	39.65	46.36
	2001	2002	2003	2004	2005	
Soybeans 2001	42.15	43.06	45.05	46.65	48.33	
Soybeans 2005	57.33	54.32	57.63	59.60	61.81	
	2006	2007	2008	2009	2010	
Soybeans 2001	50.06	51.83	53.67	55.58	57.50	
Soybeans 2005	64.17	66.66	69.03	71.40	73.71	
	2011	2012	2013	2014	2015	
Soybeans 2001	59.49	61.52	63.61	65.75	67.93	
Soybeans 2005	76.02	78.33	80.70	83.16	85.61	
	2016	2017	2018	2019	2020	
Soybeans 2001	70.17	72.46	74.80	77.21	79.66	
Soybeans 2005	88.06	90.57	93.04	95.51	97.99	
	2021	2022	2023	2024	2025	
Soybeans 2001	82.10	84.52	86.92	89.25	91.51	
Soybeans 2005	100.46	102.96	105.48	108.13	110.86	

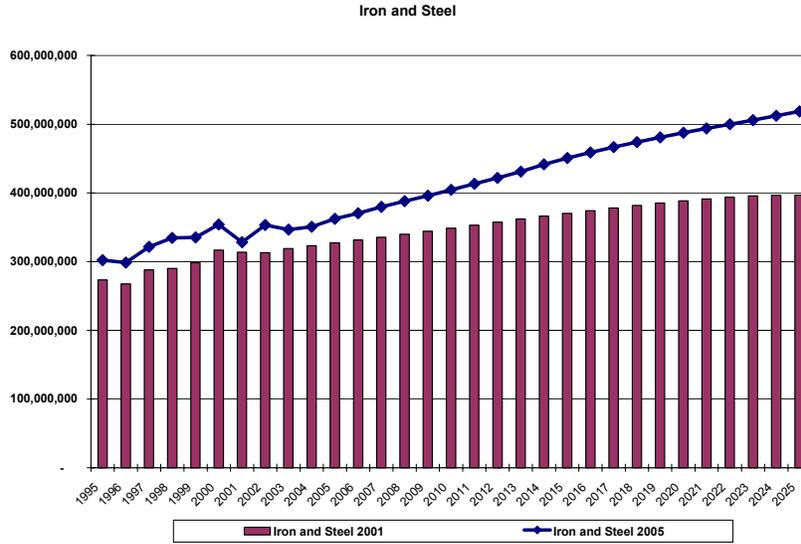
The growth rates worldwide, nevertheless are expected to be roughly the same in the new forecast as in the past. The main difference is in the volume of shipments.

	2003-04	2004-05	2005-10	2005-25
Soybeans 2001	3.6%	3.6%	3.5%	3.2%
Soybeans 2005	3.4%	3.7%	3.6%	3.0%

China's purchases from Brazil will amount to more than 3 million tons.

Iron and Steel

The global iron and steel industry has changed since the 2001 study, and sea trade shipments show this, as indicated in the chart below.



Historical data have been revised upward, and this, of course, accounts for some of the forecast changes in volumes – starting from a higher base point. In addition, China has appeared as a major consumer of iron and steel in all its forms, and this increase in demand appears more strongly in the 2005 study forecast.

Following is a table showing the annual volumes of iron and steel shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Iron and Steel 2001	273.4	267.6	288.0	289.9	298.4	316.7
Iron and Steel 2005	302.1	298.8	321.5	334.4	335.2	353.8
	2001	2002	2003	2004	2005	
Iron and Steel 2001	313.6	313.0	318.9	323.2	327.3	
Iron and Steel 2005	328.3	353.2	346.6	350.6	362.3	
	2006	2007	2008	2009	2010	
Iron and Steel 2001	331.5	335.6	339.9	344.3	348.6	
Iron and Steel 2005	370.4	379.7	387.8	395.9	404.6	
	2011	2012	2013	2014	2015	
Iron and Steel 2001	353.1	357.5	361.9	366.1	370.2	
Iron and Steel 2005	413.3	421.7	431.0	441.5	450.8	
	2016	2017	2018	2019	2020	
Iron and Steel 2001	374.2	378.0	381.7	385.3	388.6	
Iron and Steel 2005	458.8	466.7	474.0	480.8	487.6	
	2021	2022	2023	2024	2025	
Iron and Steel 2001	391.4	393.7	395.5	396.6	397.0	
Iron and Steel 2005	493.7	499.9	505.8	512.2	518.7	

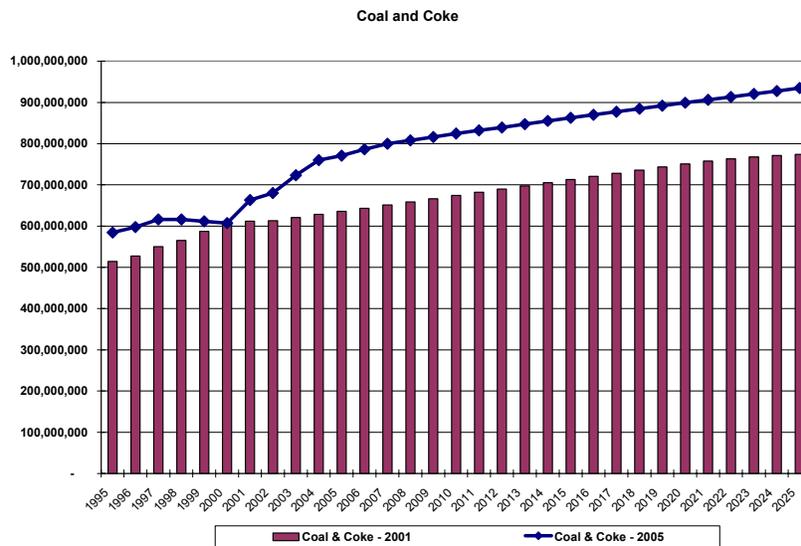
The changes in the expected growth rates are shown in the table below.

	2003-04	2004-05	2005-10	2005-25
Iron and Steel 2001	1.3%	1.3%	1.3%	1.0%
Iron and Steel 2005	1.1%	3.3%	2.2%	1.8%

By 2025, the difference between the two forecasts is 122 million tons.

Coal and Coke

For this commodity, there have been historical data revisions through 2003 which have raised our estimate of total global shipments in coal and coke. Nevertheless, the global weakness in this commodity through 2000 caused these higher numbers to grow only slightly, so that by 2000, the original data used in the 2001 study and the revised data were nearly the same. Then, the forecast growth from the earlier study called for only very slow growth, consistent with historical economic growth patterns. When China became a major manufacturing force in this century, the new forecast (2005) captured this demand potential and the forecast therefore shows higher growth worldwide in this commodity (see the accompanying report explaining the routes structure of this commodity).



Following is a table showing the annual volumes of coal and coke shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Coal & Coke - 2001	514.13	527.26	549.94	565.45	587.16	611.07
Coal & Coke - 2005	584.56	597.52	616.06	616.16	611.45	607.12
	2001	2002	2003	2004	2005	
Coal & Coke - 2001	611.64	613.29	620.60	628.40	636.02	
Coal & Coke - 2005	663.09	680.44	723.56	760.08	770.91	
	2006	2007	2008	2009	2010	
Coal & Coke - 2001	643.50	651.03	658.69	666.59	674.43	
Coal & Coke - 2005	786.24	799.99	807.99	816.22	824.86	
	2011	2012	2013	2014	2015	
Coal & Coke - 2001	682.14	689.82	697.60	705.32	712.96	
Coal & Coke - 2005	832.09	839.41	847.45	855.32	862.65	
	2016	2017	2018	2019	2020	
Coal & Coke - 2001	720.67	728.29	735.91	743.56	751.05	
Coal & Coke - 2005	870.06	877.48	884.79	892.01	899.31	
	2021	2022	2023	2024	2025	
Coal & Coke - 2001	757.66	763.39	768.07	771.60	773.95	
Coal & Coke - 2005	906.29	913.46	920.47	927.76	935.17	

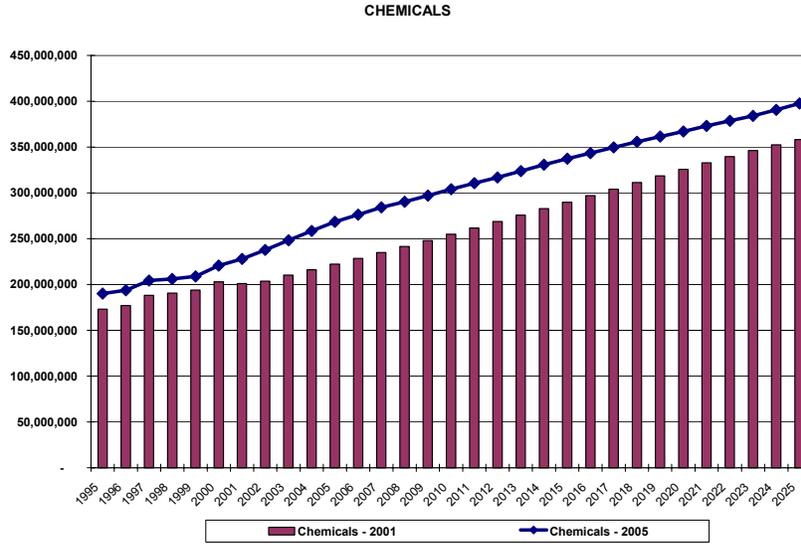
As a result of China, in particular, the long term growth rate for sea shipments in coal and coke is now slightly higher than previously forecast. The differences, although small, are applied to a larger base which resulted from the recent expansion of this market.

	2003-04	2004-05	2005-10	2005-25
Coal & Coke - 2001	1.3%	1.2%	1.2%	1.0%
Coal & Coke - 2005	5.0%	6.3%	2.2%	1.2%

In effect, the main difference between the two studies is the increase in the 2003-05 period, which has set the stage for higher sea trade volumes in the future, although the growth rates of global coal and coke shipments will remain subdued.

Chemicals

Chemical is one of the most ubiquitous commodities in the world, with suppliers and buyers in almost every global geography and every industrial niche. For this reason, world trade in this commodity generally runs with overall economic growth.



Following is a table showing the annual volumes of chemicals shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Chemicals - 2001	173.15	177.15	188.22	190.73	193.94	203.03
Chemicals - 2005	190.22	193.68	204.40	206.15	208.95	220.69
	2001	2002	2003	2004	2005	
Chemicals - 2001	201.09	203.53	210.33	216.30	222.35	
Chemicals - 2005	228.01	237.73	248.34	258.56	268.50	
	2006	2007	2008	2009	2010	
Chemicals - 2001	228.53	234.84	241.40	248.00	254.91	
Chemicals - 2005	276.31	284.18	290.25	296.96	304.07	
	2011	2012	2013	2014	2015	
Chemicals - 2001	261.76	268.71	275.70	282.76	289.83	
Chemicals - 2005	310.54	316.85	323.80	330.77	337.36	
	2016	2017	2018	2019	2020	
Chemicals - 2001	296.95	304.10	311.29	318.55	325.71	
Chemicals - 2005	343.56	349.78	355.75	361.55	367.18	
	2021	2022	2023	2024	2025	
Chemicals - 2001	332.75	339.61	346.21	352.39	358.17	
Chemicals - 2005	373.15	378.66	384.12	390.65	397.67	

Historical data has been revised upward, and this accounts for some of the reason for the higher forecast through 2025. Additionally, the economic growth spurt throughout the world in 2003-2004 set the stage for greater consumption of chemicals in many industries as they expanded. This growth does not simply stop abruptly but rather slows down as, in the long term, economies seek equilibrium and supply-demand balance.

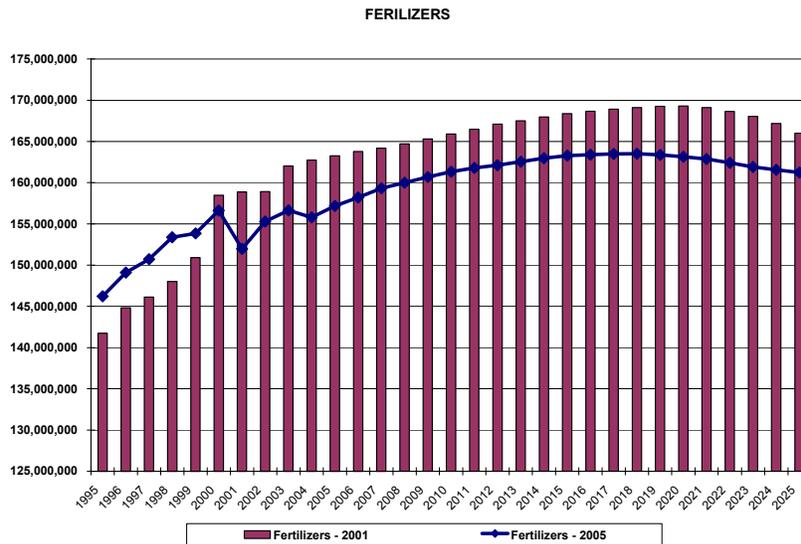
The new forecast (2005) is, we think, more accurate since it is based on updated historical data and represents more reasonable growth rates in the long term, which are shown in the table below.

	2003-04	2004-05	2005-10	2005-25
Chemicals - 2001	2.8%	2.8%	2.8%	2.4%
Chemicals - 2005	4.1%	4.5%	3.2%	2.2%

Fertilizers

The general outline of the forecasts for global shipments of fertilizers in each of the studies is the same, namely, an increase for a period of years followed by a slow decline as fertilizers face regulatory barriers and their use becomes less important. However, as described in the accompanying World Sea Trade Outlook for ACP Commodities, the general picture of suppliers and buyers is expected to remain roughly the same throughout the forecast period.

The new forecast completed in 2005, when compared to the 2001 study, calls for similar growth rates in the short and medium terms. The 2001 study saw the increase in shipments in 2000 and, in fact, over-forecast the increase; then the modest growth thereafter mirrored the actual declines in 2001 so that the 2001 forecast in terms of its pattern of growth was quite accurate. The difference between the two forecasts can now be seen to be due to the data revisions over the 1995-2001 period.



Following is a table showing the annual volumes of fertilizer shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Coal & Coke - 2001	141.75	144.84	146.11	148.01	150.90	158.46
Coal & Coke - 2005	146.22	149.10	150.71	153.38	153.86	156.62
	2001	2002	2003	2004	2005	
Coal & Coke - 2001	158.88	158.93	162.01	162.75	163.25	
Coal & Coke - 2005	151.97	155.28	156.63	155.78	157.19	
	2006	2007	2008	2009	2010	
Coal & Coke - 2001	163.76	164.17	164.71	165.29	165.89	
Coal & Coke - 2005	158.20	159.32	159.99	160.68	161.31	
	2011	2012	2013	2014	2015	
Coal & Coke - 2001	166.49	167.08	167.50	167.96	168.37	
Coal & Coke - 2005	161.77	162.11	162.54	162.98	163.27	
	2016	2017	2018	2019	2020	
Coal & Coke - 2001	168.67	168.92	169.11	169.25	169.29	
Coal & Coke - 2005	163.39	163.49	163.50	163.37	163.15	
	2021	2022	2023	2024	2025	
Coal & Coke - 2001	169.11	168.63	168.04	167.18	165.99	
Coal & Coke - 2005	162.87	162.40	161.91	161.55	161.23	

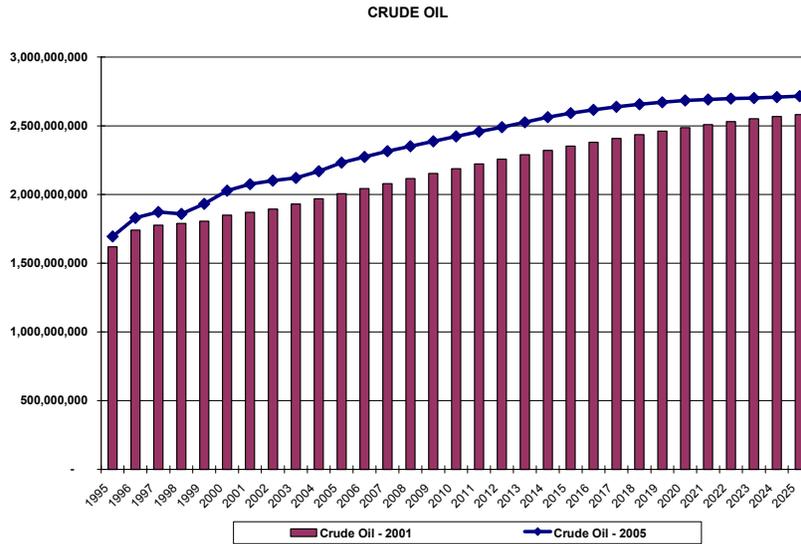
In effect, the growth rates of the two forecasts are similar over the full 2005-25 period, after adjusting for the high growth in 2004 and 2005. This is shown in the table below.

	2003-04	2004-05	2005-10	2005-25
Fertilizers - 2001	1.3%	1.2%	1.2%	1.0%
Fertilizers - 2005	5.0%	6.3%	2.2%	1.2%

This shows that, in doing long-range forecasting, the swings in the near term are often moderated in the long term as economies are generally assumed to reach equilibrium and their trade in most commodities is assumed to be accommodating to the existing supply and demand conditions at the time.

Crude Oil

Global seaborne shipments of crude oil have followed the general pattern expected in the 2001 study, although data revisions have shown that more tonnage was shipped than previously assumed for historical periods. This is clear in the comparison chart below.



Following is a table showing the annual volumes of crude oil shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Crude Oil - 2001	1,618.79	1,740.56	1,776.81	1,789.63	1,805.21	1,849.63
Crude Oil - 2005	1,695.14	1,830.13	1,872.38	1,858.44	1,931.77	2,027.67
	2001	2002	2003	2004	2005	
Crude Oil - 2001	1,870.75	1,893.74	1,931.44	1,968.73	2,005.68	
Crude Oil - 2005	2,074.68	2,099.96	2,120.17	2,169.22	2,231.22	
	2006	2007	2008	2009	2010	
Crude Oil - 2001	2,042.81	2,079.35	2,116.26	2,152.22	2,187.94	
Crude Oil - 2005	2,273.12	2,315.06	2,350.69	2,386.46	2,422.76	
	2011	2012	2013	2014	2015	
Crude Oil - 2001	2,222.87	2,256.69	2,289.54	2,320.96	2,351.19	
Crude Oil - 2005	2,457.09	2,489.88	2,525.51	2,562.11	2,591.81	
	2016	2017	2018	2019	2020	
Crude Oil - 2001	2,380.37	2,408.38	2,435.58	2,461.26	2,485.52	
Crude Oil - 2005	2,616.17	2,638.00	2,656.24	2,671.30	2,683.83	
	2021	2022	2023	2024	2025	
Crude Oil - 2001	2,508.50	2,530.65	2,550.98	2,567.94	2,581.69	
Crude Oil - 2005	2,691.58	2,698.03	2,702.25	2,708.82	2,715.60	

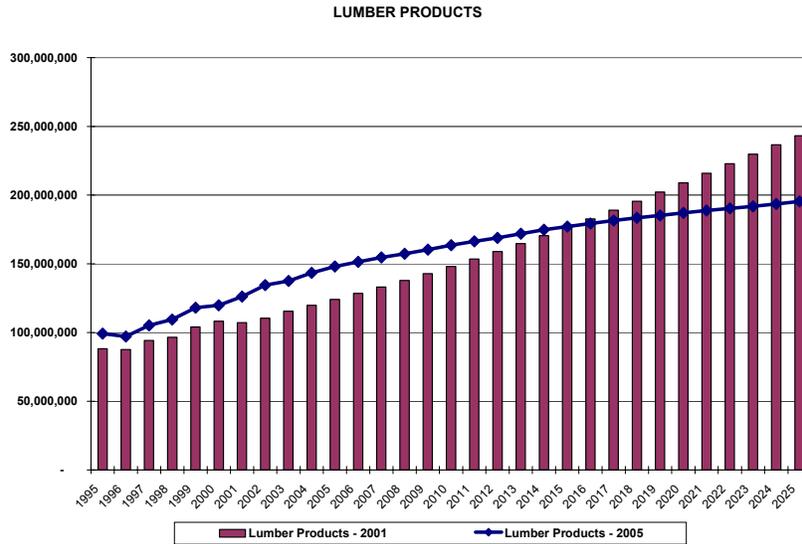
The new forecast, built on the revised historical trade figures, shows growth that averages 1.2% per year over the full 2005-25 period, while the 2001 study predicted 1.3% per year. This small difference is clear in the chart above, and in the table below. However, in the new forecast, there is a tendency to slow in the out years, as substitutes become more available and crude becomes less important in overall transportation.

	2003-04	2004-05	2005-10	2005-25
Crude Oil - 2001	1.9%	1.9%	1.8%	1.3%
Crude Oil - 2005	2.3%	1.0%	2.1%	1.2%

The difference in 2025 is 133 million metric tons.

Lumber Products

As in many of the ACP commodities, historical trade figures have been revised throughout the world resulting, in the case of lumber products, in higher volumes over the historical period. Therefore, the 2005 study began its forecast with higher volumes, especially on the Southeast Asia-to-East Asia route.



Following is a table showing the annual volumes of lumber products shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Lumber Products - 2001	88.14	87.66	94.25	96.58	104.01	108.29
Lumber Products - 2005	99.22	97.09	105.19	109.43	118.05	119.76
	2001	2002	2003	2004	2005	
Lumber Products - 2001	107.22	110.39	115.48	119.73	124.01	
Lumber Products - 2005	126.16	134.43	137.56	143.42	148.05	
	2006	2007	2008	2009	2010	
Lumber Products - 2001	128.45	133.05	137.89	142.91	148.10	
Lumber Products - 2005	151.35	154.72	157.36	160.30	163.56	
	2011	2012	2013	2014	2015	
Lumber Products - 2001	153.46	158.99	164.69	170.54	176.52	
Lumber Products - 2005	166.31	168.89	171.92	174.78	177.19	
	2016	2017	2018	2019	2020	
Lumber Products - 2001	182.67	189.00	195.51	202.20	209.03	
Lumber Products - 2005	179.31	181.49	183.45	185.29	187.05	
	2021	2022	2023	2024	2025	
Lumber Products - 2001	215.90	222.84	229.73	236.52	243.18	
Lumber Products - 2005	188.71	190.36	191.81	193.55	195.36	

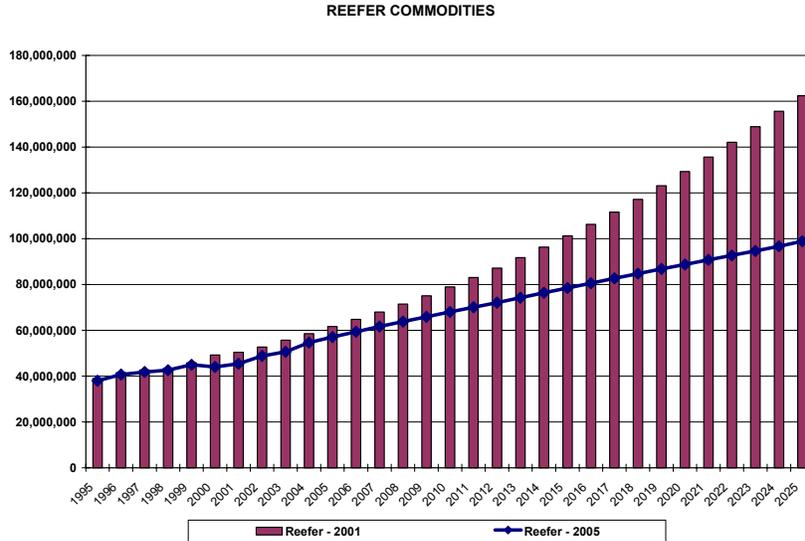
As in many of the other commodities, revisions of historical data have raised the actual tonnage shipped, and this can be seen in the chart above. For this commodity, however, the forecast from this study (2005) shows a different pattern over the long term, as lumber shipments slow in the face of slower economic growth. Lumber, like paper, is a commodity that is tied to almost all sectors of an economy, in one way or another, and as real GDP slows, so does the demand for lumber products, and therefore the international trade in such commodities will also slow. Therefore, the current forecast is, we feel, more realistic than the one produced in the 2001 study.

	2003-04	2004-05	2005-10	2005-25
Lumber Products - 2001	3.7%	3.6%	3.6%	3.4%
Lumber Products - 2005	4.3%	2.3%	2.7%	1.7%

The earlier study's forecast growth rates, above 3% on average per year, are now deemed to be unrealistic in view of the baseline economic projections which call for slower economic growth in general in the longer term.

Reefer Commodities

Like bananas, reefer commodities show a future pattern that moderates with the slower growth in population. Comparing the results of the two Global Insight studies, we see that the revised forecast is considerably more subdued, when compared to the 2001 study.



Following is a table showing the annual volumes of reefer products shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Reefer - 2001	39.01	41.54	42.73	43.49	45.85	49.22
Reefer - 2005	38.03	40.71	41.86	42.60	44.94	43.98
	2001	2002	2003	2004	2005	
Reefer - 2001	50.38	52.69	55.67	58.60	61.69	
Reefer - 2005	45.41	48.79	50.67	54.65	57.11	
	2006	2007	2008	2009	2010	
Reefer - 2001	64.78	67.99	71.48	75.07	78.92	
Reefer - 2005	59.38	61.63	63.81	65.94	68.02	
	2011	2012	2013	2014	2015	
Reefer - 2001	83.02	87.22	91.71	96.29	101.23	
Reefer - 2005	70.05	72.11	74.23	76.38	78.48	
	2016	2017	2018	2019	2020	
Reefer - 2001	106.25	111.62	117.15	123.14	129.33	
Reefer - 2005	80.58	82.69	84.75	86.78	88.79	
	2021	2022	2023	2024	2025	
Reefer - 2001	135.60	142.14	148.86	155.66	162.46	
Reefer - 2005	90.74	92.69	94.64	96.72	98.87	

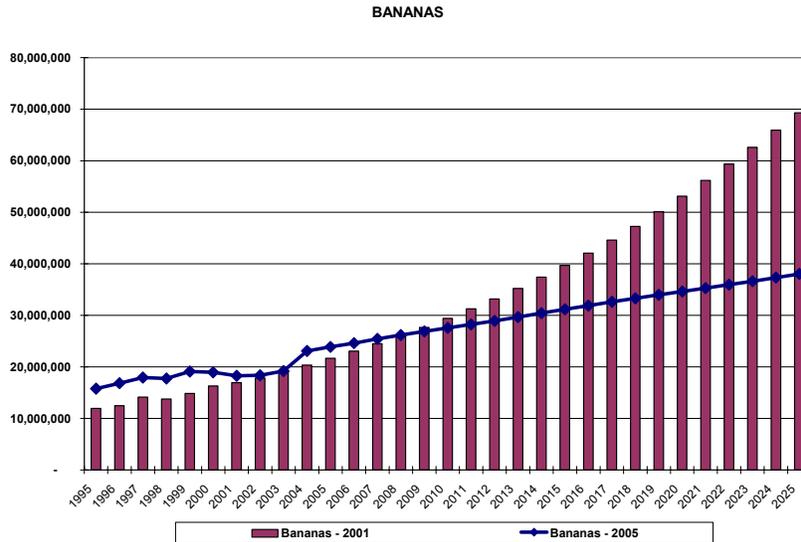
The 2005 study incorporates the reduction in world tonnage in 2000, based on revised data, and it also incorporates a more modest growth projection, as shown in the table below.

	2003-04	2004-05	2005-10	2005-25
Reefer - 2001	5.2%	5.3%	5.1%	5.0%
Reefer - 2005	7.9%	4.5%	3.6%	2.8%

The 2001 study growth projections were overstated. The revised forecast is considerably more reasonable since it assumes that reefer commodities are consumed, as in history, in the major areas of the world, such as Europe and the U.S., with China appearing as a new and large consuming nation. However, in the long term, growth in this market should reflect population growth plus an additional marketing penetration factor – and the current long term growth rate of 2.8% is, in this sense, quite reasonable. Indeed, the 2.8% growth rate is slightly higher than the expected long-term population growth rate, thereby implying a slight change in "penetration" by refrigerated, perishable commodities in diets around the world as incomes improve, especially in developing regions.

Bananas

The banana trade has experienced many years of disputes, market-influencing politics, and arguments that fall outside of normal free-market principles. In general, bananas had a surge after the Berlin wall fell and a new market opened in Eastern Europe and Russia, and this market continues to grow. However, in the long term, banana consumption will grow with population, whose growth will be slowing over time.



Following is a table showing the annual volumes of banana shipments worldwide in each of the two studies, in millions of metric tons.

Millions of Tons	1995	1996	1997	1998	1999	2000
Bananas - 2001	11.95	12.45	14.15	13.77	14.86	16.29
Bananas - 2005	15.77	16.84	17.95	17.73	19.11	18.94
	2001	2002	2003	2004	2005	
Bananas - 2001	16.94	17.83	19.09	20.36	21.67	
Bananas - 2005	18.30	18.37	19.19	23.09	23.87	
	2006	2007	2008	2009	2010	
Bananas - 2001	23.05	24.50	26.03	27.66	29.41	
Bananas - 2005	24.60	25.44	26.17	26.88	27.57	
	2011	2012	2013	2014	2015	
Bananas - 2001	31.25	33.19	35.24	37.40	39.68	
Bananas - 2005	28.24	28.92	29.65	30.43	31.18	
	2016	2017	2018	2019	2020	
Bananas - 2001	42.07	44.60	47.26	50.11	53.11	
Bananas - 2005	31.89	32.62	33.31	33.98	34.64	
	2021	2022	2023	2024	2025	
Bananas - 2001	56.19	59.36	62.60	65.92	69.30	
Bananas - 2005	35.30	35.96	36.62	37.32	38.03	

We feel that the revised 2005 forecast is more reliable and representative of the long-term shipment potential for bananas. Historical data have been revised upward, as in many of the ACP commodities, and we can now see the flat spot in the shipments data for 1999-

2003. The 2005 study forecast growth rates are more reasonable since they more directly reflect population growth rates, as shown in the table below.

	2003-04	2004-05	2005-10	2005-25
Bananas - 2001	1.3%	1.2%	1.2%	1.0%
Bananas - 2005	5.0%	6.3%	2.2%	1.2%

Again, as mentioned in the study's report concerning the outlook for banana trade, the current threat from the EU concerning the proposed imposition of discriminatory tariffs against "dollar banana" producers could affect the Canal negatively, since Ecuador is the world's largest producer and ships a large percentage of its output through the Panama Canal. The impact of such a measure on global banana shipments is not included in this forecast. This is simply a precaution which we hope and expect the ACP to take seriously.