Business

Dow	–49.18	12,527
Nasdaq	–26.64	2,322
S&P 500	–11.05	1,354
Russell 2000	–13.54	698
10-year note	–0.08	3.48%

Property lines

By Tom Ramstack

Malls evolve toward mix-use

The kind of shopping malls that have dotted the Washington area's landscape for decades re fading away, real estate [illegible] said yesterday.

Gas, crude prices hit record

Squeezed consumers pull back at pump

By John Wilen
ASSOCIATED PRESS

NEW YORK — The upward trend in energy prices showed no sign of abating yesterday as gasoline set another record at the pump and crude oil topped $112 a barrel for the first time in the futures market.

The national average price of a gallon of regular unleaded gas rose 1.2 cents to a record $3.343 a gallon, according to a survey of gas stations by AAA and the Oil Price Information Service. With the peak summer driving season still to come and gas following crude higher, the fuel may well reach the retail price of $4 a gallon that the Energy Department has been forecasting.

But prices that are 55 cents higher than a year ago are hurting demand for gasoline, which fell last week by nearly 2 percent from year-earlier levels, the department's Energy Information Administration said in its weekly inventory report.

"People are cutting back on gasoline purchases because the economy is squeezing them right now," said Phil Flynn, an analyst at Alaron Trading Corp. in Chicago.

The EIA report, closely watched by the futures market, also said crude oil supplies fell by a surprising 3.2 million barrels last week; analysts surveyed by Dow Jones Newswires, on average, had expected an increase of 2.4 million barrels.

That sent light, sweet crude for May delivery up $2.37 to settle at a record $110.87 a barrel on the New York Mercantile Exchange after rising as high as $112.21. That beat a trading record of $111.80 set last month.

Analysts expect demand for gas and oil to fall further as prices rise. In theory, that should bring prices down, but gas and oil prices this year have shown little inclination of falling in response to eroding demand. With gasoline supplies shrinking and the summer approaching — when demand, while weaker than last year, will be stronger than it is now — consumers may have to wait until this fall for price relief.

Some analysts cautioned against reading too much into last week's drop in crude supplies.

"We note there was a sharp decline in crude oil imports," said Eric Wittenauer, an analyst at Wachovia Securities in St. Louis.

Mr. Flynn said crude imports fell in part because fog closed several shipping channels in Texas and Louisiana that serve as vital oil import conduits last week. "That leads me to suspect that there are more ships out there in the Gulf [of Mexico] that didn't get counted," he said.

The Washington Times

Table G1. World Total Liquids Production by Region and Country, Reference Case, 1990-2030
(Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2004-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OPEC[a]	**24.9**	**34.0**	**35.3**	**37.8**	**42.1**	**46.6**	**51.3**	**56.8**	**2.0**
Asia (Indonesia)	**1.5**	**1.2**	**1.1**	**1.0**	**1.0**	**0.8**	**0.7**	**0.7**	**-2.2**
Middle East	**16.1**	**22.9**	**23.5**	**23.3**	**26.0**	**29.9**	**33.8**	**38.6**	**2.0**
Iran	3.1	4.1	4.2	4.2	4.3	4.5	4.8	5.0	0.8
Iraq	2.1	2.0	1.9	2.5	3.3	4.2	4.8	5.3	3.8
Kuwait	1.2	2.5	2.7	2.8	3.2	3.9	4.0	4.1	1.9
Qatar	0.4	1.0	1.1	1.6	2.0	2.4	2.6	2.9	4.0
Saudi Arabia	7.0	10.5	10.7	8.9	9.4	10.4	12.9	16.4	1.7
United Arab Emirates	2.3	2.8	2.8	3.3	3.8	4.5	4.7	4.9	2.2
North Africa	**2.7**	**3.5**	**3.8**	**4.4**	**4.7**	**4.9**	**5.0**	**4.9**	**1.3**
Algeria	1.3	2.0	2.1	2.5	2.8	2.9	3.0	3.1	1.7
Libya	1.4	1.6	1.7	1.9	2.0	2.0	2.0	1.9	0.7
West Africa	**2.3**	**3.4**	**4.0**	**6.3**	**7.6**	**8.1**	**8.6**	**9.2**	**3.9**
Angola	0.5	1.1	1.3	2.7	3.1	3.3	3.6	4.0	5.3
Nigeria	1.8	2.3	2.8	3.6	4.5	4.8	5.0	5.2	3.1
South America (Venezuela)	**2.3**	**3.0**	**2.8**	**2.8**	**2.8**	**2.9**	**3.1**	**3.3**	**0.4**
Non-OPEC	**41.4**	**48.9**	**49.1**	**52.9**	**55.3**	**57.2**	**59.1**	**60.9**	**0.8**
OECD	**20.0**	**22.7**	**21.7**	**22.4**	**22.5**	**22.5**	**22.4**	**22.6**	**0.0**
OECD North America	**14.7**	**15.6**	**15.1**	**16.5**	**17.2**	**17.8**	**18.3**	**18.8**	**0.7**
United States	9.6	8.6	8.2	9.5	10.0	10.1	10.1	10.2	0.6
Canada	2.0	3.1	3.1	3.9	4.2	4.4	4.8	5.1	1.8
Mexico	3.0	3.8	3.8	3.2	3.0	3.2	3.4	3.6	-0.3
OECD Europe	**4.5**	**6.4**	**5.9**	**5.0**	**4.4**	**3.7**	**3.2**	**2.9**	**-2.9**
OECD Asia	**0.8**	**0.7**	**0.7**	**0.9**	**0.9**	**1.0**	**0.9**	**0.9**	**0.7**
Japan	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.7
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
Australia and New Zealand	0.7	0.6	0.6	0.7	0.8	0.8	0.7	0.6	0.4
Non-OECD	**21.4**	**26.2**	**27.3**	**30.5**	**32.7**	**34.7**	**36.7**	**38.3**	**1.5**
Non-OECD Europe and Eurasia	**11.6**	**11.5**	**11.9**	**13.7**	**14.9**	**15.8**	**16.7**	**17.5**	**1.6**
Russia	0.0	9.3	9.5	10.0	10.3	10.7	11.2	11.5	0.8
Caspian Area	0.0	1.9	2.1	3.4	4.3	4.8	5.2	5.7	4.3
Other	11.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.2
Non-OECD Asia	**4.4**	**6.4**	**6.8**	**6.8**	**6.9**	**7.3**	**7.7**	**8.0**	**0.8**
China	2.8	3.6	3.8	3.8	3.7	4.2	4.6	4.9	1.1
India	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.7
Other	1.0	2.0	2.1	2.0	2.0	2.0	1.9	1.8	-0.3
Middle East (Non-OPEC)	**1.3**	**1.7**	**1.8**	**1.7**	**1.7**	**1.7**	**1.8**	**1.8**	**0.2**
Africa	**1.7**	**2.5**	**2.6**	**3.1**	**3.4**	**3.5**	**3.6**	**3.7**	**1.6**
Central and South America	**2.4**	**4.1**	**4.3**	**5.2**	**5.8**	**6.3**	**6.9**	**7.3**	**2.3**
Brazil	0.8	1.8	1.9	2.7	3.2	3.6	4.0	4.4	3.6
Other	1.6	2.3	2.4	2.5	2.7	2.7	2.8	3.0	0.9
Total World	**66.3**	**82.9**	**84.3**	**90.7**	**97.4**	**103.8**	**110.4**	**117.7**	**1.4**
OPEC Share of World Production	38%	41%	42%	42%	43%	45%	46%	48%	
Persian Gulf Share of World Production	24%	28%	28%	26%	27%	29%	31%	33%	

[a]OPEC = Organization of the Petroleum Exporting Countries (OPEC-12).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, System for the Analysis of Global Energy Markets, run 2007March21a (2007).

Table G4. World Total Liquids Production by Region and Country, High Oil Price Case, 1990-2030
(Million Barrels Oil Equivalent per Day)

Region/Country	History (Estimates)			Projections					Average Annual Percent Change, 2004-2030
	1990	2004	2005	2010	2015	2020	2025	2030	
OPEC[a]	**24.9**	**34.0**	**35.3**	**35.3**	**35.6**	**36.7**	**40.0**	**43.2**	**0.9**
Asia (Indonesia)	**1.5**	**1.2**	**1.1**	**1.0**	**0.8**	**0.6**	**0.6**	**0.5**	**-3.3**
Middle East	**16.1**	**22.9**	**23.5**	**21.4**	**22.0**	**23.5**	**26.2**	**28.8**	**0.9**
Iran	3.1	4.1	4.2	4.0	3.5	3.4	3.6	3.8	-0.3
Iraq	2.1	2.0	1.9	2.4	2.7	3.2	3.6	4.0	2.7
Kuwait	1.2	2.5	2.7	2.7	2.6	2.9	3.0	3.1	0.8
Qatar	0.4	1.0	1.1	1.5	1.8	2.2	2.3	2.6	3.6
Saudi Arabia	7.0	10.5	10.7	7.6	8.3	8.4	10.1	11.6	0.4
United Arab Emirates	2.3	2.8	2.8	3.1	3.1	3.4	3.6	3.7	1.1
North Africa	**2.7**	**3.5**	**3.8**	**4.2**	**3.9**	**3.7**	**3.7**	**3.7**	**0.2**
Algeria	1.3	2.0	2.1	2.4	2.3	2.2	2.2	2.3	0.6
Libya	1.4	1.6	1.7	1.8	1.6	1.5	1.5	1.4	-0.4
West Africa	**2.3**	**3.4**	**4.0**	**6.1**	**6.3**	**6.2**	**6.5**	**6.9**	**2.8**
Angola	0.5	1.1	1.3	2.6	2.6	2.5	2.7	3.0	4.1
Nigeria	1.8	2.3	2.8	3.5	3.7	3.6	3.8	3.9	2.0
South America (Venezuela)	**2.3**	**3.0**	**2.8**	**2.7**	**2.6**	**2.7**	**3.0**	**3.3**	**0.4**
Non-OPEC	**41.4**	**48.9**	**49.1**	**52.4**	**52.8**	**54.9**	**57.7**	**60.2**	**0.8**
OECD	**20.0**	**22.7**	**21.7**	**22.1**	**21.8**	**22.6**	**23.5**	**24.4**	**0.3**
OECD North America	**14.7**	**15.6**	**15.1**	**16.3**	**16.8**	**18.3**	**19.7**	**20.9**	**1.1**
United States	9.6	8.6	8.2	9.2	9.6	10.5	11.2	11.9	1.3
Canada	2.0	3.1	3.1	3.9	4.4	4.9	5.4	5.7	2.3
Mexico	3.0	3.8	3.8	3.1	2.8	2.9	3.1	3.2	-0.7
OECD Europe	**4.5**	**6.4**	**5.9**	**4.9**	**4.1**	**3.4**	**3.0**	**2.7**	**-3.2**
OECD Asia	**0.8**	**0.7**	**0.7**	**0.8**	**0.9**	**0.9**	**0.9**	**0.8**	**0.5**
Japan	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	1.3
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3
Australia and New Zealand	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.1
Non-OECD	**21.4**	**26.2**	**27.3**	**30.3**	**31.0**	**32.2**	**34.2**	**35.8**	**1.2**
Non-OECD Europe and Eurasia	**11.6**	**11.5**	**11.9**	**13.6**	**13.9**	**14.3**	**15.1**	**15.8**	**1.2**
Russia	0.0	9.3	9.5	9.9	9.6	9.7	10.1	10.4	0.4
Caspian Area	0.0	1.9	2.1	3.4	4.0	4.3	4.7	5.1	3.9
Other	11.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.5
Non-OECD Asia	**4.4**	**6.4**	**6.8**	**6.8**	**6.6**	**7.1**	**7.5**	**7.9**	**0.8**
China	2.8	3.6	3.8	3.8	3.6	4.1	4.5	4.9	1.2
India	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.7
Other	1.0	2.0	2.1	2.0	1.9	1.9	1.8	1.7	-0.5
Middle East (Non-OPEC)	**1.3**	**1.7**	**1.8**	**1.7**	**1.6**	**1.6**	**1.6**	**1.6**	**-0.2**
Africa	**1.7**	**2.5**	**2.6**	**3.1**	**3.2**	**3.3**	**3.4**	**3.5**	**1.3**
Central and South America	**2.4**	**4.1**	**4.3**	**5.1**	**5.6**	**6.1**	**6.6**	**7.0**	**2.1**
Brazil	0.8	1.8	1.9	2.7	3.1	3.5	4.0	4.3	3.5
Other	1.6	2.3	2.4	2.4	2.5	2.5	2.6	2.7	0.6
Total World	**66.3**	**82.9**	**84.3**	**87.7**	**88.4**	**91.6**	**97.6**	**103.4**	**0.9**
OPEC Share of World Production	38%	41%	42%	40%	40%	40%	41%	42%	
Persian Gulf Share of World Production	24%	28%	28%	24%	25%	26%	27%	28%	

[a]OPEC = Organization of the Petroleum Exporting Countries (OPEC-12).

Sources: **History:** Energy Information Administration (EIA), Office of Energy Markets and End Use. **Projections:** EIA, System for the Analysis of Global Energy Markets, run 2007March21a (2007).

Table D1. World Total Primary Energy Consumption by Region, High World Oil Price Case, 1990-2030
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2004-2030
	1990	2003	2004	2010	2015	2020	2025	2030	
OECD									
OECD North America	**100.8**	**118.3**	**120.9**	**129.3**	**134.8**	**142.7**	**149.9**	**157.6**	**1.0**
United States[a]	84.7	98.3	100.7	105.5	109.9	115.8	121.6	127.7	0.9
Canada	11.1	13.5	13.6	15.6	16.0	17.0	17.6	18.3	1.1
Mexico	5.0	6.5	6.6	8.2	8.9	10.0	10.7	11.6	2.2
OECD Europe	**69.9**	**79.5**	**81.1**	**83.6**	**84.1**	**85.3**	**86.2**	**86.9**	**0.3**
OECD Asia	**26.6**	**36.9**	**37.8**	**39.4**	**40.5**	**42.4**	**43.8**	**45.3**	**0.7**
Japan	18.4	22.2	22.6	23.2	23.2	23.7	24.0	24.3	0.3
South Korea	3.8	8.7	9.0	9.4	10.2	11.2	11.9	12.8	1.4
Australia/New Zealand	4.4	6.0	6.2	6.8	7.1	7.6	8.0	8.2	1.1
Total OECD	**197.4**	**234.7**	**239.8**	**252.3**	**259.4**	**270.4**	**279.9**	**289.8**	**0.7**
Non-OECD									
Non-OECD Europe and Eurasia	**67.2**	**47.9**	**49.7**	**55.2**	**60.7**	**67.0**	**70.3**	**72.1**	**1.4**
Russia	39.0	28.8	30.1	33.2	36.3	39.4	41.3	42.2	1.3
Other	28.3	19.2	19.6	22.0	24.4	27.6	29.0	29.9	1.6
Non-OECD Asia	**47.5**	**88.2**	**99.9**	**129.4**	**149.6**	**174.2**	**197.0**	**219.7**	**3.1**
China	27.0	49.7	59.6	81.6	94.0	110.1	125.1	140.8	3.4
India	8.0	14.4	15.4	17.9	20.8	24.3	27.7	30.8	2.7
Other Non-OECD Asia	12.5	24.0	24.9	29.9	34.8	39.9	44.2	48.2	2.6
Middle East	**11.3**	**19.9**	**21.1**	**26.6**	**29.9**	**32.9**	**34.9**	**36.9**	**2.2**
Africa	**9.5**	**13.3**	**13.7**	**16.7**	**18.5**	**20.6**	**22.4**	**23.9**	**2.2**
Central and South America	**14.5**	**21.7**	**22.5**	**27.3**	**30.5**	**33.8**	**36.7**	**39.5**	**2.2**
Brazil	5.8	8.7	9.1	11.0	12.2	13.5	14.7	16.2	2.3
Other Central and South America	8.8	13.0	13.5	16.3	18.3	20.4	22.0	23.2	2.1
Total Non-OECD	**150.0**	**191.0**	**206.9**	**255.2**	**289.1**	**328.5**	**361.3**	**392.1**	**2.5**
Total World	**347.3**	**425.7**	**446.7**	**507.4**	**548.5**	**598.9**	**641.3**	**681.9**	**1.6**

[a]Includes the 50 States and the District of Columbia.

Notes: Energy totals include net imports of coal coke and electricity generated from biomass in the United States. Totals may not equal sum of components due to independent rounding. The electricity portion of the national fuel consumption values consists of generation for domestic use plus an adjustment for electricity trade based on a fuel's share of total generation in the exporting country.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2007*, DOE/EIA-0383(2007) (Washington, DC, February 2007), AEO2007 National Energy Modeling System, run HP2007.D112106A, web site www.eia.doe.gov/oiaf/aeo; and System for the Analysis of Global Energy Markets (2007).

Table D3. World Gross Domestic Product (GDP) by Region Expressed in Purchasing Power Parity, High World Oil Price Case, 1990-2030
(Billion 2000 Dollars)

Region/Country	History			Projections					Average Annual Percent Change, 2004-2030
	1990	2003	2004	2010	2015	2020	2025	2030	
OECD									
OECD North America	**8,477**	**12,250**	**12,725**	**15,160**	**17,372**	**20,309**	**23,458**	**26,862**	**2.9**
United States[a]	7,113	10,301	10,704	12,707	14,544	17,024	19,658	22,476	2.9
Canada	684	973	1,005	1,190	1,339	1,490	1,651	1,829	2.3
Mexico	680	975	1,016	1,262	1,489	1,795	2,149	2,557	3.6
OECD Europe	**8,067**	**10,850**	**11,132**	**12,832**	**14,251**	**16,049**	**17,894**	**19,894**	**2.3**
OECD Asia	**3,621**	**4,630**	**4,761**	**5,528**	**6,040**	**6,611**	**7,126**	**7,659**	**1.8**
Japan	2,862	3,289	3,363	3,774	3,977	4,190	4,337	4,467	1.1
South Korea	331	683	715	958	1,151	1,352	1,550	1,761	3.5
Australia/New Zealand	429	658	682	796	912	1,069	1,240	1,431	2.9
Total OECD	**20,165**	**27,730**	**28,619**	**33,520**	**37,663**	**42,969**	**48,478**	**54,415**	**2.5**
Non-OECD									
Non-OECD Europe and Eurasia	**3,601**	**3,081**	**3,332**	**4,762**	**5,866**	**7,037**	**8,356**	**9,880**	**4.3**
Russia	2,241	1,780	1,907	2,626	3,156	3,682	4,282	4,955	3.7
Other	1,360	1,301	1,425	2,136	2,709	3,354	4,074	4,925	4.9
Non-OECD Asia	**5,995**	**14,573**	**15,841**	**24,585**	**32,501**	**42,873**	**54,878**	**69,385**	**5.8**
China	2,002	7,013	7,722	12,928	17,638	23,872	31,004	39,547	6.5
India	1,703	3,434	3,727	5,629	7,339	9,599	12,279	15,587	5.7
Other Non-OECD Asia	2,291	4,125	4,393	6,028	7,523	9,402	11,595	14,251	4.6
Middle East	**820**	**1,364**	**1,453**	**1,989**	**2,483**	**2,947**	**3,521**	**4,240**	**4.2**
Africa	**1,450**	**2,056**	**2,161**	**2,927**	**3,699**	**4,708**	**5,920**	**7,400**	**4.8**
Central and South America	**2,191**	**3,110**	**3,297**	**4,262**	**5,103**	**6,183**	**7,423**	**8,860**	**3.9**
Brazil	1,022	1,378	1,446	1,774	2,092	2,480	2,921	3,427	3.4
Other Central and South America	1,169	1,733	1,852	2,488	3,011	3,703	4,502	5,433	4.2
Total Non-OECD	**14,057**	**24,184**	**26,085**	**38,524**	**49,652**	**63,749**	**80,098**	**99,766**	**5.3**
Total World	**34,222**	**51,914**	**54,704**	**72,044**	**87,315**	**106,718**	**128,575**	**154,181**	**4.1**

[a]Includes the 50 States and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: **History:** Global Insight, Inc., Global Scenario Model (February 2007). **Projections:** Global Insight, Inc., *World Overview*, Fourth Quarter 2006 (Lexington, MA, January 2007); and Energy Information Administration, *Annual Energy Outlook 2007*, DOE/EIA-0383(2007) (Washington DC, February 2007), Table B4.

Table D4. World Liquids Consumption by Region, High World Oil Price Case, 1990-2030
(Million Barrels Oil Equivalent per Day)

Region/Country	History			Projections					Average Annual Percent Change, 2004-2030
	1990	2003	2004	2010	2015	2020	2025	2030	
OECD									
OECD North America	**20.5**	**24.2**	**25.0**	**25.4**	**25.8**	**26.5**	**27.6**	**28.7**	**0.5**
United States[a]	17.0	20.0	20.7	21.1	21.6	22.3	23.2	24.1	0.6
Canada	1.7	2.2	2.3	2.2	2.1	2.0	2.1	2.1	-0.4
Mexico	1.8	1.9	2.0	2.1	2.1	2.2	2.4	2.5	1.0
OECD Europe	**13.7**	**15.4**	**15.6**	**14.8**	**13.8**	**13.5**	**13.6**	**13.7**	**-0.5**
OECD Asia	**7.1**	**8.7**	**8.5**	**8.1**	**7.7**	**7.7**	**8.0**	**8.1**	**-0.2**
Japan	5.2	5.5	5.4	5.0	4.6	4.5	4.6	4.6	-0.6
South Korea	1.0	2.2	2.1	2.1	2.2	2.2	2.3	2.4	0.5
Australia/New Zealand	0.8	1.0	1.0	1.0	1.0	1.0	1.1	1.1	0.3
Total OECD	**41.3**	**48.3**	**49.1**	**48.3**	**47.3**	**47.7**	**49.2**	**50.5**	**0.1**
Non-OECD									
Non-OECD Europe and Eurasia	**9.3**	**4.6**	**4.8**	**4.9**	**4.9**	**5.0**	**5.3**	**5.5**	**0.5**
Russia	5.4	2.7	2.8	2.8	2.7	2.7	2.9	2.9	0.2
Other	3.9	1.9	2.0	2.2	2.2	2.3	2.4	2.6	0.9
Non-OECD Asia	**6.6**	**13.6**	**14.8**	**18.0**	**18.9**	**20.5**	**23.2**	**25.9**	**2.2**
China	2.3	5.6	6.4	9.0	9.3	10.3	11.8	13.6	2.9
India	1.2	2.3	2.5	2.6	2.9	3.1	3.5	3.8	1.7
Other Non-OECD Asia	3.1	5.7	6.0	6.4	6.7	7.1	7.8	8.5	1.4
Middle East	**3.5**	**5.4**	**5.7**	**7.0**	**7.3**	**7.5**	**8.2**	**8.9**	**1.7**
Africa	**2.1**	**2.7**	**2.8**	**3.2**	**3.4**	**3.7**	**3.9**	**4.2**	**1.6**
Central and South America	**3.8**	**5.2**	**5.4**	**6.2**	**6.6**	**7.0**	**7.8**	**8.4**	**1.7**
Brazil	1.5	2.1	2.1	2.5	2.5	2.7	3.0	3.2	1.5
Other Central and South America	2.3	3.2	3.3	3.8	4.0	4.3	4.9	5.2	1.8
Total Non-OECD	**25.3**	**31.5**	**33.4**	**39.3**	**41.0**	**43.8**	**48.4**	**52.9**	**1.8**
Total World	**66.5**	**79.8**	**82.5**	**87.7**	**88.3**	**91.6**	**97.6**	**103.3**	**0.9**

[a]Includes the 50 States and the District of Columbia.

Note: Totals may not equal sum of components due to independent rounding.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2007*, DOE/EIA-0383(2007) (Washington, DC, February 2007), AEO2007 National Energy Modeling System, run HP2007.D112106A, web site www.eia.doe.gov/oiaf/aeo; and System for the Analysis of Global Energy Markets (2007).

Table D9. World Carbon Dioxide Emissions by Region, High World Oil Price Case, 1990-2030
(Million Metric Tons Carbon Dioxide)

Region/Country	History			Projections					Average Annual Percent Change, 2004-2030
	1990	2003	2004	2010	2015	2020	2025	2030	
OECD									
OECD North America	**5,763**	**6,775**	**6,893**	**7,278**	**7,626**	**8,091**	**8,575**	**9,108**	**1.1**
United States[a]	4,989	5,800	5,923	6,156	6,456	6,830	7,239	7,701	1.0
Canada	474	589	584	646	651	683	710	735	0.9
Mexico	300	385	385	477	519	577	626	672	2.2
OECD Europe	**4,092**	**4,321**	**4,381**	**4,468**	**4,491**	**4,550**	**4,584**	**4,610**	**0.2**
OECD Asia	**1,543**	**2,129**	**2,183**	**2,248**	**2,287**	**2,366**	**2,436**	**2,493**	**0.5**
Japan	1,015	1,244	1,262	1,260	1,249	1,255	1,258	1,258	0.0
South Korea	238	475	497	516	548	592	627	664	1.1
Australia/New Zealand	291	410	424	472	490	519	550	571	1.2
Total OECD	**11,399**	**13,225**	**13,457**	**13,994**	**14,404**	**15,007**	**15,594**	**16,210**	**0.7**
Non-OECD									
Non-OECD Europe and Eurasia	**4,193**	**2,717**	**2,819**	**3,110**	**3,426**	**3,746**	**3,890**	**3,994**	**1.3**
Russia	2,334	1,602	1,685	1,840	1,996	2,152	2,221	2,264	1.1
Other	1,859	1,115	1,134	1,270	1,430	1,594	1,669	1,729	1.6
Non-OECD Asia	**3,627**	**6,479**	**7,411**	**9,613**	**11,077**	**12,822**	**14,443**	**16,083**	**3.0**
China	2,241	3,898	4,707	6,432	7,376	8,588	9,727	10,924	3.3
India	578	1,040	1,111	1,274	1,467	1,683	1,905	2,110	2.5
Other Non-OECD Asia	807	1,542	1,593	1,907	2,234	2,551	2,811	3,049	2.5
Middle East	**705**	**1,211**	**1,289**	**1,617**	**1,807**	**1,973**	**2,095**	**2,224**	**2.1**
Africa	**649**	**895**	**919**	**1,131**	**1,260**	**1,393**	**1,512**	**1,611**	**2.2**
Central and South America	**673**	**981**	**1,027**	**1,206**	**1,326**	**1,453**	**1,591**	**1,712**	**2.0**
Brazil	220	317	334	389	411	438	483	534	1.8
Other Central and South America	453	664	693	817	915	1,015	1,108	1,177	2.1
Total Non-OECD	**9,847**	**12,283**	**13,465**	**16,676**	**18,894**	**21,387**	**23,531**	**25,623**	**2.5**
Total World	**21,246**	**25,508**	**26,922**	**30,670**	**33,299**	**36,395**	**39,125**	**41,833**	**1.7**

[a]Includes the 50 States and the District of Columbia.
Note: The U.S. numbers include carbon dioxide emissions attributable to renewable energy sources.
Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2007*, DOE/EIA-0383(2007) (Washington, DC, February 2007), AEO2007 National Energy Modeling System, run HP2007.D112106A, web site www.eia.doe.gov/oiaf/aeo; and System for the Analysis of Global Energy Markets (2007).

	1990	2003	2004	2010		2030
Coal	8,277	9,782	10,617	12,884	. . . . .	19,605
Liquid	9,014	10,472	10,852	11,440	. . . . .	13,520
Natural Gas	3,954	5,242	5,441	6,333	. . . . .	8,694

Table D2. World Total Energy Consumption by Region and Fuel, High World Oil Price Case, 1990-2030
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2004-2030
	1990	2003	2004	2010	2015	2020	2025	2030	
OECD									
OECD North America									
Liquids	40.5	47.2	49.2	49.8	50.4	52.0	54.1	56.6	0.5
Natural Gas	23.2	28.5	28.5	30.7	32.3	33.8	34.2	34.8	0.8
Coal	20.7	24.1	24.1	26.7	29.1	32.2	35.7	39.4	1.9
Nuclear	6.9	8.9	9.3	9.7	10.0	10.9	11.6	11.9	1.0
Other	9.5	9.8	9.9	12.4	13.0	13.8	14.3	14.8	1.6
Total	**100.8**	**118.3**	**120.9**	**129.3**	**134.8**	**142.7**	**149.9**	**157.6**	**1.0**
OECD Europe									
Liquids	28.4	31.9	32.4	30.6	28.5	27.9	28.2	28.3	-0.5
Natural Gas	11.2	18.6	19.3	21.9	23.4	25.6	26.3	26.7	1.3
Coal	17.6	13.2	13.1	13.9	14.7	14.5	14.2	14.3	0.3
Nuclear	7.9	9.8	9.9	10.2	10.0	9.3	9.3	9.4	-0.2
Other	4.8	5.9	6.3	7.1	7.5	8.0	8.1	8.2	1.0
Total	**69.9**	**79.5**	**81.1**	**83.6**	**84.1**	**85.3**	**86.2**	**86.9**	**0.3**
OECD Asia									
Liquids	14.5	17.7	17.4	16.6	15.8	15.7	16.2	16.5	-0.2
Natural Gas	2.9	5.3	5.3	6.1	6.3	6.9	7.0	7.2	1.2
Coal	5.2	8.6	9.3	10.2	11.0	11.5	11.9	12.2	1.0
Nuclear	2.5	3.5	4.0	4.6	5.3	6.0	6.3	6.9	2.1
Other	1.6	1.8	1.7	1.9	2.1	2.3	2.3	2.4	1.3
Total	**26.6**	**36.9**	**37.8**	**39.4**	**40.5**	**42.4**	**43.8**	**45.3**	**0.7**
Total OECD									
Liquids	83.4	96.7	98.9	96.9	94.7	95.6	98.6	101.4	0.1
Natural Gas	37.2	52.4	53.1	58.7	62.0	66.4	67.6	68.8	1.0
Coal	43.5	45.9	46.6	50.8	54.8	58.3	61.8	66.0	1.3
Nuclear	17.3	22.2	23.2	24.5	25.3	26.2	27.2	28.3	0.8
Other	15.9	17.5	17.9	21.4	22.6	24.0	24.7	25.4	1.4
Total	**197.4**	**234.7**	**239.8**	**252.3**	**259.4**	**270.4**	**279.9**	**289.8**	**0.7**
Non-OECD									
Non-OECD Europe and Eurasia									
Liquids	19.5	9.4	9.9	10.2	10.1	10.3	10.9	11.3	0.5
Natural Gas	27.5	24.2	25.1	27.8	30.2	33.6	34.6	35.7	1.4
Coal	15.1	8.7	9.0	10.4	12.5	13.9	14.4	14.6	1.9
Nuclear	2.5	2.9	2.9	3.2	3.7	4.7	5.5	5.5	2.5
Other	2.8	2.8	2.9	3.7	4.2	4.6	4.8	5.0	2.1
Total	**67.2**	**47.9**	**49.7**	**55.2**	**60.7**	**67.0**	**70.3**	**72.1**	**1.4**
Non-OECD Asia									
Liquids	13.9	28.1	30.6	37.0	39.0	42.4	47.8	53.4	2.2
Natural Gas	3.0	8.1	8.9	13.1	16.4	20.9	24.4	28.1	4.5
Coal	27.2	45.8	53.6	70.5	83.0	97.0	108.7	120.4	3.2
Nuclear	0.4	1.0	1.1	1.6	3.0	4.3	5.5	6.2	7.0
Other	3.0	5.2	5.7	7.1	8.2	9.7	10.7	11.6	2.8
Total	**47.5**	**88.2**	**99.9**	**129.4**	**149.6**	**174.2**	**197.0**	**219.7**	**3.1**

See notes at end of table.

Table D2. World Total Energy Consumption by Region and Fuel, High World Oil Price Case, 1990-2030 (Continued)
(Quadrillion Btu)

Region/Country	History			Projections					Average Annual Percent Change, 2004-2030
	1990	2003	2004	2010	2015	2020	2025	2030	
Non-OECD (Continued)									
Middle East									
Liquids	7.3	11.0	11.6	14.4	15.0	15.4	16.8	18.1	1.7
Natural Gas	3.8	8.4	9.0	11.4	13.8	16.3	16.8	17.6	2.6
Coal	0.1	0.4	0.4	0.6	0.8	0.9	0.9	0.9	3.2
Nuclear	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	—
Other	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.3	2.8
Total	**11.3**	**19.9**	**21.1**	**26.6**	**29.9**	**32.9**	**34.9**	**36.9**	**2.2**
Africa									
Liquids	4.3	5.6	5.7	6.5	6.9	7.5	8.1	8.6	1.6
Natural Gas	1.5	2.7	2.8	3.5	4.0	4.8	5.5	6.1	3.0
Coal	3.0	4.0	4.1	5.5	6.3	6.8	7.3	7.6	2.4
Nuclear	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	1.7
Other	0.6	0.9	0.9	1.1	1.2	1.3	1.3	1.4	1.6
Total	**9.5**	**13.3**	**13.7**	**16.7**	**18.5**	**20.6**	**22.4**	**23.9**	**2.2**
Central and South America									
Liquids	7.8	11.1	11.5	12.8	13.4	14.4	16.0	17.2	1.6
Natural Gas	2.2	4.0	4.4	5.6	6.8	7.7	8.3	8.7	2.7
Coal	0.6	0.8	0.8	1.2	1.4	1.5	1.6	1.8	3.1
Nuclear	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	2.3
Other	3.9	5.6	5.6	7.5	8.6	9.7	10.5	11.3	2.7
Total	**14.5**	**21.7**	**22.5**	**27.3**	**30.5**	**33.8**	**36.7**	**39.5**	**2.2**
Total Non-OECD									
Liquids	52.7	65.2	69.3	80.9	84.4	90.1	99.6	108.7	1.7
Natural Gas	38.0	47.4	50.3	61.4	71.2	83.3	89.5	96.2	2.5
Coal	45.9	59.7	67.9	88.0	103.9	119.9	132.9	145.3	3.0
Nuclear	3.1	4.2	4.3	5.3	7.2	9.6	11.7	12.4	4.2
Other	10.3	14.5	15.3	19.6	22.4	25.5	27.6	29.5	2.6
Total	**150.0**	**191.1**	**206.9**	**255.2**	**289.1**	**328.5**	**361.3**	**392.1**	**2.5**
Total World									
Liquids	136.2	161.9	168.2	177.8	179.1	185.7	198.2	210.1	0.9
Natural Gas	75.2	99.8	103.4	120.1	133.2	149.6	157.1	165.0	1.8
Coal	89.4	105.6	114.5	138.8	158.7	178.2	194.7	211.3	2.4
Nuclear	20.4	26.4	27.5	29.8	32.6	35.8	38.9	40.7	1.5
Other	26.2	32.1	33.2	41.0	45.0	49.5	52.3	54.9	2.0
Total	**347.3**	**425.7**	**446.7**	**507.4**	**548.5**	**598.9**	**641.3**	**681.9**	**1.6**

Notes: Energy totals include net imports of coal coke and electricity generated from biomass in the United States. Totals may not equal sum of components due to independent rounding. The electricity portion of the national fuel consumption values consists of generation for domestic use plus an adjustment for electricity trade based on a fuel's share of total generation in the exporting country.

Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, *Annual Energy Outlook 2007*, DOE/EIA-0383(2007) (Washington, DC, February 2007), AEO2007 National Energy Modeling System, run HP2007.D112106A, web site www.eia.doe.gov/oiaf/aeo; and System for the Analysis of Global Energy Markets (2007).

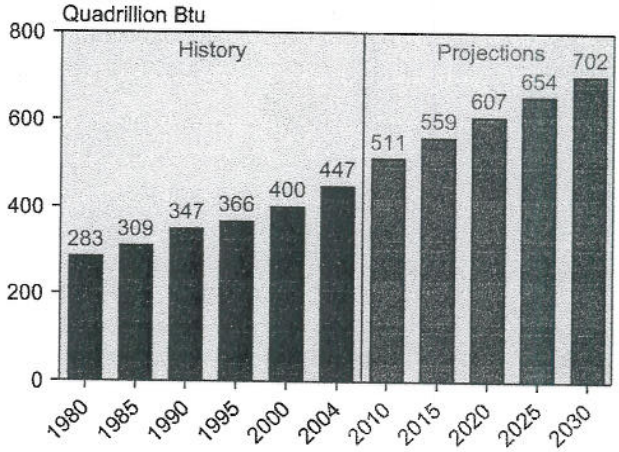
Chapter 1
World Energy and Economic Outlook

In the IEO2007 reference case, total world consumption of marketed energy is projected to increase by 57 percent from 2004 to 2030. The largest projected increase in energy demand is for the non-OECD region.

The *IEO2007* reference case—which reflects a scenario where current laws and policies remain unchanged throughout the projection period—projects strong growth for worldwide energy demand from 2004 to 2030. Total world consumption of marketed energy is projected to increase from 447 quadrillion Btu in 2004 to 559 quadrillion Btu in 2015 and then to 702 quadrillion Btu in 2030—a 57-percent increase over the projection period (Table 1 and Figure 8).

The largest projected increase in energy demand is for the non-OECD region. Generally, countries outside the OECD[3] have higher projected economic growth rates and more rapid population growth than the OECD nations. In the *IEO2007* reference case, energy consumption in the non-OECD region is projected to grow at an average annual rate of 2.6 percent from 2004 through 2030. In the OECD region, where national economies are more mature and population growth is expected to be relatively slower, energy use is projected to grow at the much slower average rate of 0.8 percent per year over

Figure 8. World Marketed Energy Consumption, 1980-2030



Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, System for the Analysis of Global Energy Markets (2007).

Table 1. World Marketed Energy Consumption by Country Grouping, 2004-2030
(Quadrillion Btu)

Region	2004	2010	2015	2020	2025	2030	Average Annual Percent Change, 2003-2030
OECD	**239.8**	**254.4**	**265.2**	**275.1**	**285.9**	**298.0**	**0.8**
North America	120.9	130.3	137.4	145.1	153.0	161.6	1.1
Europe	81.1	84.1	85.8	86.1	87.5	89.2	0.4
Asia	37.8	39.9	42.1	43.9	45.4	47.2	0.9
Non-OECD	**206.9**	**256.6**	**294.2**	**331.9**	**367.8**	**403.5**	**2.6**
Europe and Eurasia	49.7	54.7	59.4	64.4	68.7	71.5	1.4
Asia	99.9	131.0	154.7	178.8	202.5	227.6	3.2
Middle East	21.1	26.3	29.5	32.6	35.5	38.2	2.3
Africa	13.7	16.9	19.2	21.2	23.1	24.9	2.3
Central and South America	22.5	27.7	31.5	34.8	38.0	41.4	2.4
Total World	**446.7**	**511.1**	**559.4**	**607.0**	**653.7**	**701.6**	**1.8**

Note: Totals may not equal sum of components due to independent rounding.
Sources: **2004:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, System for the Analysis of Global Energy Markets (2007).

[3]For consistency, OECD includes all members of the organization as of February 1, 2007, throughout all the time series presented in this publication.

the projection period. Energy use in the non-OECD region is projected to surpass that in the OECD region by 2010, and to be 35 percent greater than the non-OECD total in 2030 (Figure 9).

Much of the growth in energy demand among the non-OECD economies occurs in non-OECD Asia, which includes China and India. Energy demand in the non-OECD Asia region is projected to grow at an average rate of 3.2 percent per year, more than doubling over the 2004 to 2030 period and accounting for more than 65 percent of the increase in energy use for the non-OECD region as a whole. In 2004, energy consumption in the countries of non-OECD Asia made up just over 48 percent of the non-OECD total; in 2030, its share is projected to be above 56 percent (Figure 10).

Strong growth in energy demand is also projected for the other non-OECD regions. In the reference case projections, energy consumption increases at average annual rates of 2.4 percent in Central and South America, 2.3 percent in the Middle East and in Africa, and 1.4 percent in non-OECD Europe and Eurasia.

This chapter presents an overview of the *IEO2007* outlook for energy consumption by primary energy source and a look at the major assumptions that form the basis for the projections that appear in the report. It includes a discussion of the *IEO2007* macroeconomic forecast in the context of the key OECD and non-OECD regions.

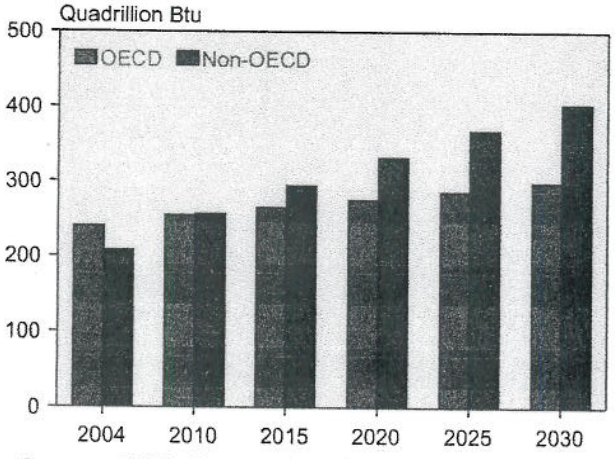
As with any set of projections, there is significant uncertainty associated with the *IEO2007* energy projections. This chapter includes discussion of two sets of sensitivity cases, which vary some of the assumptions behind the *IEO2007* projections: high and low macroeconomic growth cases and high and low world oil price cases. These cases are intended to illustrate alternative scenarios rather than to identify any bounds on uncertainty, which can be affected by policy and technology developments, as well as price and growth paths. Also included is a discussion of the possible effects of future trends in energy intensity (the relationship between energy use and economic growth) on the reference case projections.

Outlook for World Energy Consumption

The *IEO2007* reference case projects increased world consumption of marketed energy from all sources over the 2004 to 2030 period. Fossil fuels continue to supply much of the increment in marketed energy use worldwide throughout the projections. Liquids (primarily, oil and other petroleum products) are expected to continue to provide the largest share of world energy consumption over the projection period, but their share falls from 38 percent in 2004 to 34 percent in 2030 (Figure 11), largely because rising world oil prices dampen the demand for liquids after 2015.

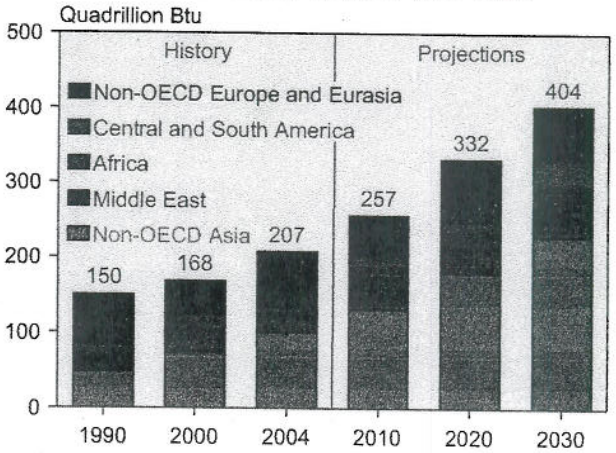
Worldwide liquids consumption is projected to increase from 83 million barrels per day in 2004 to 97 million barrels per day in 2015 and 118 million barrels per day in 2030. Liquids remain the most important fuels for transportation, because there are few alternatives that can be expected to compete widely with petroleum-based liquids; however, the role of oil outside the transportation sector continues to be eroded because of high world oil prices in most regions of the world. On a global basis, the transportation sector accounts for 68 percent of the total projected increase in liquids use between 2004 and 2030,

Figure 9. World Marketed Energy Use: OECD and Non-OECD, 2004-2030



Sources: **2004:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, System for the Analysis of Global Energy Markets (2007).

Figure 10. Marketed Energy Use in the Non-OECD Economies by Region, 1990-2030



Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site www.eia.doe.gov/iea. **Projections:** EIA, System for the Analysis of Global Energy Markets (2007).

1,200-megawatt Kotlibhel-IA project [1]. China also has a number of large-scale hydroelectric projects under construction, including the 18,200-megawatt Three Gorges Dam project (expected to be fully operational by 2009) and the 12,600-megawatt Xiluodu project on the Jisha River (scheduled for completion in 2020, as part of a 14-facility hydropower development plan) [2]. In the non-OECD region of Central and South America, Brazil has plans for a number of new hydropower projects that the country hopes to complete to keep up with electricity demand after 2010, including the 3,150-megawatt Santo Antonio and 3,300-megawatt Jirau projects on the Madeira River [3].

Outside of Canada and Turkey, hydropower capacity is not expected to grow substantially in the OECD nations, because most hydroelectric resources in the region already have been developed or lie far from population centers. Instead, most of the increase in OECD renewable energy consumption is expected to be in the form of nonhydroelectric resources, such as wind, solar, geothermal, municipal solid waste, and biomass.

World Economic Outlook

Economic growth is among the most important factors to be considered in projecting changes in the world's energy consumption. In the *IEO2007* projections, assumptions about regional economic growth—measured in terms of GDP in real 2000 U.S. dollars at purchasing power parity rates—underlie the projections of regional energy demand.

The macroeconomic framework employed for the economic growth projections reflects the interaction of many important economic variables and underlying relationships, both in the short term and in the medium to long term. In the short term, households and businesses make spending decisions (the demand side) based on current financial conditions—for example, interest rates or the price of goods to be purchased.

In the long term, it is the ability to produce goods and services (the supply side) that ultimately determines the growth potential for any country's economy. Growth potential is influenced by population growth, labor force participation rates, productivity growth, and capital accumulation. In addition, for the developing economies, progress in building human and physical capital infrastructures, establishing credible regulatory mechanisms to govern markets, and ensuring political stability play more important roles in determining their medium- to long-term growth potential.

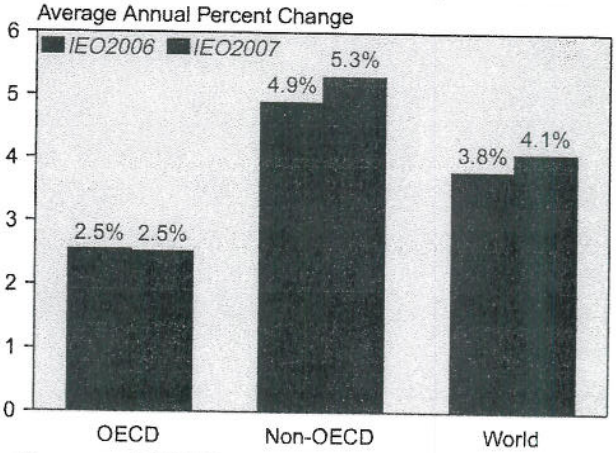
Over the 2004 to 2030 period, world real GDP growth is projected to average 4.1 percent annually in the reference case (Table 2 and Figure 15). When compared with the *IEO2006* reference case projection, the world economic growth projection in the *IEO2007* reference case is higher primarily because of more optimistic assumptions about the growth prospects of non-OECD countries, particularly, China and India.

The projected annual growth in world GDP over the next 25 years is higher than the rate recorded over the past 25 years, mainly because the countries that are expected to see more rapid growth make up an increasing share of world GDP. A number of the developing non-OECD nations have undertaken significant reforms over the past several years. Improved macroeconomic policies, trade liberalization, more flexible exchange rate regimes, and lower fiscal deficits have lowered their national inflation rates, reduced uncertainty, and improved their overall investment climates. More microeconomic structural reforms, such as privatization and regulatory reform, have also played key roles. In general, such reforms have resulted in growth rates that are above historical trends in many of the emerging economies over the past 5 to 10 years.

OECD Economies

In the United States, compared with the second half of the 1990s, GDP growth rates were lower from 2000 to 2002 but rebounded to 2.5 percent in 2003, 3.9 percent in 2004, and 3.2 percent in 2005. GDP growth in 2006 is estimated at 3.3 percent. A downturn in the housing sector has been the major source of weakening over the past year, and reductions in manufacturing output indicate that the slowdown has spread throughout the economy. At the same time, however, corporate finances have been healthy, and real nonresidential investment has remained robust. The depreciation of the U.S. dollar

Figure 15. Comparison of *IEO2006* and *IEO2007* Projections for OECD, Non-OECD, and World GDP Growth Rates, 2004-2030



Sources: ***IEO2006***: Energy Information Administration, *International Energy Outlook 2006*, DOE/EIA-0484(2006) (Washington, DC, June 2006), web site www.eia.doe.gov/oiaf/ieo. ***IEO2007***: Derived from Global Insight, Inc., *World Overview*, Fourth Quarter 2006 (Lexington, MA, January 2007).