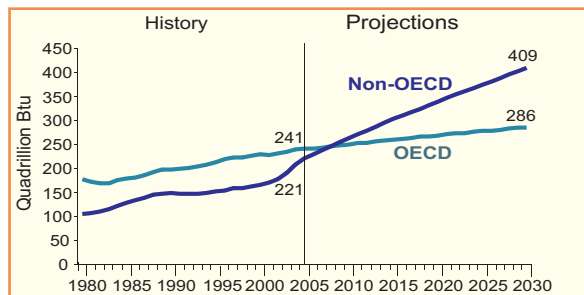


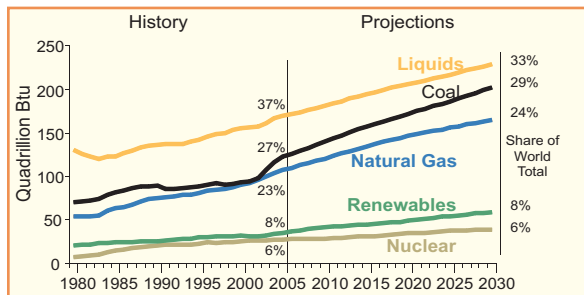
# International Energy Outlook 2008

## World Marketed Energy Use: OECD and Non-OECD



- In the *IEO2008* reference case, world energy consumption is projected to increase by 50 percent between 2005 and 2030, rising to 695 quadrillion British thermal units (Btu).
- Non-OECD (Organization for Economic Cooperation and Development) economies account for 81 percent of the world growth in energy; energy use in the non-OECD exceeds that of the OECD before 2010.
- Non-OECD Asia (including China and India) provides 56 percent of the world's increase in marketed energy use in the *IEO2008* reference case.

## World Marketed Energy Use by Fuel Type



- Petroleum and other liquid fuels remain the dominant energy source worldwide through 2030, though high oil prices erode their share of total energy use from 37 percent in 2005 to 33 percent in 2030.
- Renewables are the fastest-growing energy source, increasing by 2.1 percent per year over the projection period.
- In the absence of policies that would limit its growth, coal expands strongly, by 2.0 percent per year.

## World Energy Use by Region, 2005-2030

	(Quadrillion Btu)						Average Annual Percent Change 2005-2030
	2005	2010	2015	2020	2025	2030	
<b>OECD</b>	<b>240.9</b>	<b>249.7</b>	<b>260.5</b>	<b>269.0</b>	<b>277.6</b>	<b>285.9</b>	<b>0.7</b>
<b>North America</b>	<b>121.3</b>	<b>126.4</b>	<b>132.3</b>	<b>137.8</b>	<b>143.4</b>	<b>148.9</b>	<b>0.8</b>
United States	100.1	103.3	107.3	110.8	114.5	118.0	0.7
Canada	14.3	15.7	16.7	17.6	18.4	19.3	1.2
Mexico	6.9	7.4	8.4	9.4	10.4	11.6	2.1
<b>Europe</b>	<b>81.4</b>	<b>83.9</b>	<b>86.8</b>	<b>88.5</b>	<b>90.4</b>	<b>92.0</b>	<b>0.5</b>
<b>Asia</b>	<b>38.2</b>	<b>39.3</b>	<b>41.4</b>	<b>42.7</b>	<b>43.7</b>	<b>44.9</b>	<b>0.7</b>
Japan	22.6	22.4	22.9	23.1	23.3	23.4	0.1
South Korea	9.3	10.3	11.6	12.4	13.0	13.7	1.6
Australia/New Zealand	6.3	6.6	6.9	7.2	7.5	7.8	0.8
<b>Non-OECD</b>	<b>221.3</b>	<b>262.8</b>	<b>302.5</b>	<b>339.4</b>	<b>374.2</b>	<b>408.8</b>	<b>2.5</b>
<b>Europe and Eurasia</b>	<b>50.7</b>	<b>55.1</b>	<b>59.5</b>	<b>63.3</b>	<b>66.0</b>	<b>69.1</b>	<b>1.2</b>
Russia	30.3	32.7	34.9	36.7	38.0	39.6	1.1
Other	20.4	22.4	24.5	26.5	28.0	29.4	1.5
<b>Asia</b>	<b>109.9</b>	<b>137.1</b>	<b>164.2</b>	<b>189.4</b>	<b>215.3</b>	<b>240.8</b>	<b>3.2</b>
China	67.1	87.3	104.0	120.6	138.0	155.2	3.4
India	16.2	19.4	23.2	26.6	29.9	33.2	2.9
Other	26.6	30.5	37.0	42.2	47.3	52.4	2.7
<b>Middle East</b>	<b>22.9</b>	<b>26.4</b>	<b>29.5</b>	<b>32.6</b>	<b>34.7</b>	<b>36.8</b>	<b>1.9</b>
<b>Africa</b>	<b>14.4</b>	<b>16.5</b>	<b>18.9</b>	<b>20.9</b>	<b>22.5</b>	<b>23.9</b>	<b>2.0</b>
<b>Central and South America</b>	<b>23.4</b>	<b>27.7</b>	<b>30.5</b>	<b>33.2</b>	<b>35.7</b>	<b>38.3</b>	<b>2.0</b>
Brazil	9.3	11.1	12.6	14.1	15.5	17.0	2.4
Other	14.1	16.6	17.9	19.1	20.3	21.3	1.7

## World Energy Use and Carbon Dioxide Emissions by Fuel, 2005-2030

	(Quadrillion Btu)						Average Annual Percent Change 2005-2030
	2005	2010	2015	2020	2025	2030	
<b>Energy Consumption</b>							
Liquids	169.4	181.1	194.4	206.1	216.9	229.3	1.2
Natural Gas	107.4	120.3	134.4	146.9	155.8	164.7	1.7
Coal	122.5	140.2	157.8	171.7	186.7	202.2	2.0
Nuclear	27.5	28.8	31.4	34.5	37.7	39.4	1.5
Renewables	35.5	42.0	45.0	49.3	54.7	59.0	2.1
<b>Total</b>	<b>462.2</b>	<b>512.5</b>	<b>563.0</b>	<b>608.4</b>	<b>651.8</b>	<b>694.7</b>	<b>1.6</b>
	<b>(Billion Metric Tons Carbon Dioxide)</b>						
<b>Carbon Dioxide Emissions</b>							
Liquids	11.0	11.7	12.6	13.3	14.0	14.9	1.2
Natural Gas	5.7	6.3	7.1	7.7	8.2	8.7	1.7
Coal	11.4	13.0	14.6	15.9	17.3	18.8	2.0
<b>Total</b>	<b>28.1</b>	<b>31.1</b>	<b>34.3</b>	<b>37.0</b>	<b>39.6</b>	<b>42.3</b>	<b>1.7</b>

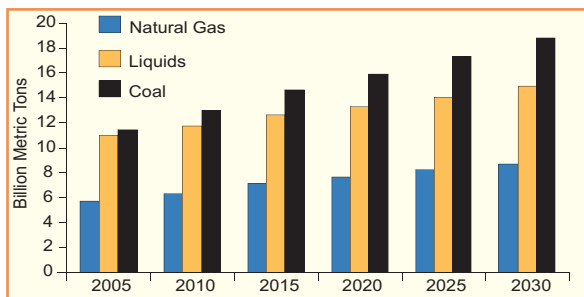
Note: Totals may not equal sums because of independent rounding.

Source: 2005: Energy Information Administration (EIA), *International Energy Annual 2005* (June-October 2007), web site: [www.eia.doe.gov/iea/](http://www.eia.doe.gov/iea/) Projections: EIA, *International Energy Outlook 2008*, DOE/EIA-0484(2008) (Washington, DC, July 2008).

The IEO is available on the web...  
[www.eia.doe.gov/oiaf/ieo](http://www.eia.doe.gov/oiaf/ieo)

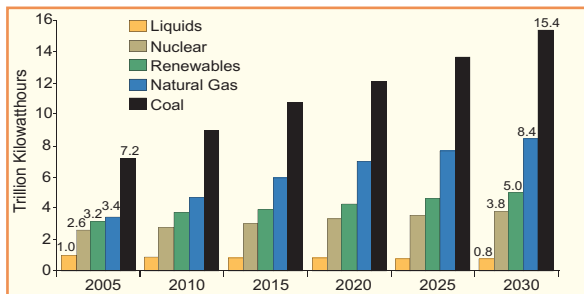
For Further Information, Contact:  
National Energy Information Center  
Washington, DC 20585  
Telephone: 202-586-8800 E-Mail: [infoctr@eia.doe.gov](mailto:infoctr@eia.doe.gov)

### World Carbon Dioxide Emissions by Fuel Type



- World carbon dioxide emissions are projected to increase 51 percent in the *IEO2008* reference case, growing from 28.1 billion metric tons in 2005 to 42.3 billion metric tons in 2030.
- Coal remains the world's largest contributor of energy-related carbon dioxide emissions throughout the projection, generating 44 percent of total world carbon dioxide emissions in 2030.

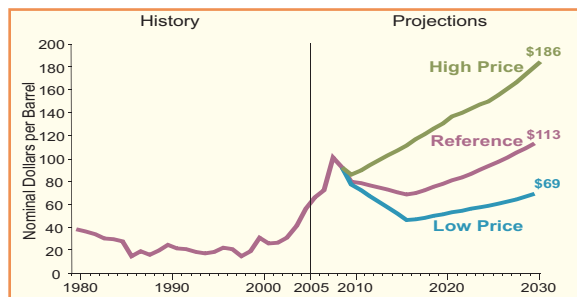
### World Electric Power Generation by Fuel



- World net electricity generation grows by 92 percent in the *IEO2008* reference case, from 17.3 trillion kilowatt-hours in 2005 to 33.3 trillion kilowatt-hours in 2030.
- Coal and natural gas remain the most important fuels for electricity generation through 2030, fueling 83 percent of the total increase in world generation in the reference case.

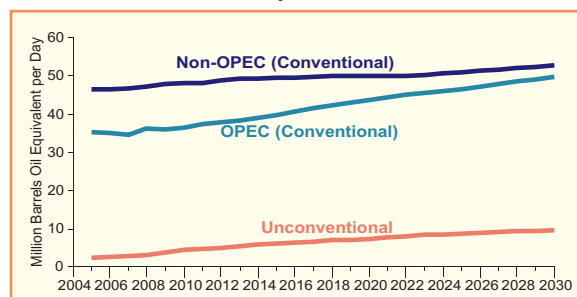


### World Oil Prices in Three Cases



- In the *IEO2008* reference case, world oil prices decline from current highs to about \$70 per barrel in 2016 (on a nominal basis); then rise to \$113 per barrel in 2030.
- High and low world oil price cases define a substantial range of uncertainty. In 2030, prices range from \$69 per barrel to \$186 per barrel and the corresponding use of liquids ranges from 122 million barrels per day to 99 million barrels per day.

### World Liquids Production



- To meet the increase in world liquids demand in the reference case, total supply in 2030 is projected to be 28 million barrels per day higher than the 2005 level of 84 million barrels per day.
- Organization of Petroleum Exporting Countries (OPEC) conventional production contributes about 12 million barrels per day to the total increase in supply; non-OPEC conventional adds another 9 million barrels per day to the increase.
- Unconventional resources (including biofuels, bitumen, coal-to-liquids, and gas-to-liquids) are expected to become increasingly competitive and account for 9 percent of total world liquids supply in 2030, on an oil equivalent basis.

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