Changing Energy Trends
From 1973 to today

40 Years after the OPEC Oil Embargo

Continued Oil Dependence

Petroleum is the largest source of primary energy used in the United States.

Primary energy use by source, 2012
quadrillion Btu and percent of total

Total U.S. = 95.1 quadrillion Btu

- Petroleum: 34.7 (36%)
- Natural Gas: 26.0 (27%)
- Coal: 17.4 (18%)
- Renewable Energy: 8.9 (9%)
- Nuclear Electric Power: 8.1 (8%)

¹Does not add to 100 due to independent rounding.
Source: U.S. Energy Information Administration, Monthly Energy Review, Table 1.3 (April 2013), preliminary 2012 data.
The U.S. imports more oil now than in 1973, both in absolute and relative terms.

Net Imports of Petroleum as a Share of Total U.S. Demand for Petroleum

Source: U.S. Energy Information Administration
Continued Oil Dependence

Net oil imports (imports minus exports) hit a high of over 60% in 2005. Oil consumption also peaked in 2005. Domestic oil production has increased since 2008.

Because of fracking, the U.S. is now the second largest producer of oil in the world.

Nevertheless, the U.S. remains subject to world oil prices, which are extremely volatile and sensitive to geopolitical events we have no control over.
Petroleum represents a much smaller share of electricity generation

Electricity Net Generation, 1973 & 2013
(in billion kilowatt hours)

Source: U.S. Energy Information Administration
But the U.S. transportation sector is still very dependent on petroleum.

Source: U.S. Energy Information Administration

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Primary energy consumption by source and sector, 2012

<table>
<thead>
<tr>
<th>Source</th>
<th>Percent of Sources</th>
<th>Percent of Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum(^1)</td>
<td>34.7 (36%)</td>
<td>93%</td>
</tr>
<tr>
<td>Natural Gas(^3)</td>
<td>26.0 (27%)</td>
<td>17%</td>
</tr>
<tr>
<td>Coal(^3)</td>
<td>17.4 (18%)</td>
<td>4%</td>
</tr>
<tr>
<td>Renewable Energy(^4)</td>
<td>6.9 (9%)</td>
<td>8%</td>
</tr>
<tr>
<td>Nuclear Electric Power</td>
<td>8.1 (8%)</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector</th>
<th>Transportation</th>
<th>Industrial</th>
<th>Residential &amp; Commercial</th>
<th>Electric Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26.6 (28%)</td>
<td>20.5 (22%)</td>
<td>9.7 (10%)</td>
<td>36.3 (40%)</td>
</tr>
</tbody>
</table>

Endnotes:
\(^1\) Does not include biofuels that have been blended with petroleum—biofuels are included in "Renewable Energy."
\(^3\) Includes synthetic and liquid petroleum.
\(^4\) Conventional hydroelectric power, geothermal, solar/PV, wind, and biomass.

*Sum of components may not equal total due to independent rounding.
Renewable biofuels are beginning to replace petroleum. Renewable ethanol displaces about 9.7% of U.S. gasoline (by volume in 2012).
More importantly, vehicles have become much more energy efficient, thanks to federal standards.
Increasing Energy Efficiency

In fact, the entire economy has become more energy efficient.

GDP Rises While Energy Consumption Falls

Source: U.S. Energy Information Administration
Oil: Principal Source of CO2 Emissions

Petroleum is a leading source of CO2 emissions.

U.S. energy-related carbon dioxide emissions by major fuel, 2012

- **Petroleum**: 2,254 million metric tons carbon dioxide (43%)
- **Coal**: 1,657 million metric tons carbon dioxide (31%)
- **Natural Gas**: 1,367 million metric tons carbon dioxide (26%)

2012 total = 5,290*

*Includes small amounts of CO$_2$ from non-biogenic municipal solid waste and geothermal energy (0.2% of total).

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

Petroleum’s share of CO2 emissions hasn’t changed much since 1973.

**U.S. Carbon dioxide emissions from energy consumption**
(Million Metric Tons of Carbon Dioxide)

<table>
<thead>
<tr>
<th>Year</th>
<th>Petroleum CO2 Emissions</th>
<th>Total CO2 Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>2350.056</td>
<td>4735.171</td>
</tr>
<tr>
<td>2012</td>
<td>2254.428</td>
<td>5289.879</td>
</tr>
</tbody>
</table>

Source: U.S. Energy Information Administration