



# Consumption of Renewable Energy By Type

## Explanation of Indicator

The amount of renewable energy sources consumed studied over time reveals how consumption patterns change or if any alternative sources result in a decreased overall use of depletable energy sources. Consumption of renewable sources of energy reflect a state's willingness to develop new technologies that may preserve the environment and lead to decreased pollutant levels. Some alternative fuel proponents claim that renewable energy sources, like solar and wind, can rapidly supplant the need for petroleum. In Florida, renewable energy accounts for six percent of all energy consumed.

## Source

This information is located in the *Florida Statistical Abstract* which is produced on an annual basis by the Bureau of Economic and Business Research, College of Business Administration, University of Florida, Gainesville, Florida 32611-2017 or at (904) 392-0171. The abstract is available at most major libraries. It may also be purchased annually from the publisher, University Press of Florida, 15 N.W. 15th Street, Gainesville, Florida 32611 or at (904) 392-1351.

## Data Characteristics

This information is collected statewide on an annual basis. The data can be obtained in a hard copy format. There are no costs associated with obtaining this data from a public or university library, however, the *Abstract* will cost \$19.95 to purchase.

## Overall Assessment

This indicator is useful in that it documents a major change in the consumption of energy in Florida. These figures are estimates derived from mathematical analyses.

## Analysis of Indicator

Energy consumption of renewable sources, in both direct and indirect solar, have been increasing over the past five years. The renewable energy source of direct solar has experienced a steadily increasing upward trend. The overall increase in consumption from 1985 to 1990 was 50 percent. However, in 1985 direct solar only made up 2.3 percent of the total of all renewable energy consumption and in 1990 it only made up 3.1 percent.

The renewable energy sources under the indirect solar category have also generally experienced upward trends. From 1985 to 1990, there was a 13.8 percent increase in the amount of energy consumed from indirect solar sources of energy. In 1985 and 1990, indirect solar made up 97 percent of the total energy consumption.

Under the subcategory of biomass energy (under indirect solar), energy from wood has had an overall increase from 1985 to 1990. Although there were fluctuations in consumption from year to year, there was an overall increase of 6.1 percent. Energy from wood sources made up 78 percent of the total of biomass energy in 1985 and made up 72 percent of the total in 1990. Consumption of energy from crop residues remained generally constant from 1985 to 1990 with 13.3 trillions of Btu in 1985 and 13.4 trillions of Btu in 1990. Crop residues made up 9.7 percent of the total biomass energy consumed and 8 percent in 1990. Consumption of energy from alcohol fuels has shown a decline of 85.7 percent from 1985 to 1990. Although this is a dramatic decrease, consumption of alcohol fuels only made up 3.5 percent of the biomass total in 1985 and .4 percent in 1990. Energy consumption of municipal solid waste has increased from 1985 to 1990 by 144 percent. However, this fuel also only makes up a small percentage of the biomass energy total with 8 percent in 1985 and 18 percent.

Hydroelectricity is also a subcategory of indirect solar and has decreased from 1985 to 1990 by 28 percent. In 1985, consumption of hydroelectric energy made up 1.8 percent of the total consumption of indirect solar energy sources. In 1990, hydroelectric made up 1.1 percent of the total of indirect solar.

It should be noted that the consumption data for renewable energy in this indicator is not comparable to the data for renewable energy for the 'total and per capita energy consumption by fuel type' indicator. This is due to a different mix of renewable energy sources in each of the indicators.

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Energy Type	1985	1986	1987	1988	1989	1990
<b>DIRECT SOLAR</b>	<b>3.4</b>	<b>3.7</b>	<b>4.3</b>	<b>4.5</b>	<b>4.7</b>	<b>5.1</b>
<b>INDIRECT SOLAR</b>	<b>139.6</b>	<b>143.3</b>	<b>153.9</b>	<b>152.9</b>	<b>160.3</b>	<b>159.0</b>
<b><i>Biomass Energy, Total</i></b>	<b>137.1</b>	<b>141.1</b>	<b>151.7</b>	<b>150.8</b>	<b>157.9</b>	<b>157.2</b>
<i>Wood</i>	106.7	113.2	117.7	116.8	115.9	113.3
pulp and paper	92.6	97.7	100.8	100.2	98.9	95.9
residential	14.1	14.3	14.7	15.2	15.6	16.0
electric utility	0.0	1.2	2.2	1.4	1.4	1.4
<i>Crop Residues</i>	13.3	13.3	13.8	13.8	13.4	13.4
<i>Alcohol Fuels</i>	4.9	2.8	1.1	0.6	0.6	0.7
<i>Municipal Solid Waste</i>	12.2	11.8	19.1	19.6	28.0	29.8
<b><i>Hydroelectric Energy</i></b>	<b>2.5</b>	<b>2.2</b>	<b>2.2</b>	<b>2.1</b>	<b>2.4</b>	<b>1.8</b>
<b>Total</b>	<b>143.8</b>	<b>147.0</b>	<b>158.4</b>	<b>157.4</b>	<b>164.0</b>	<b>163.7</b>

### Total Consumption of Renewable Energy By Type

