

Table 8a. U.S. Renewable Energy Consumption (Quadrillion Btu)
 U.S. Energy Information Administration | Short-Term Energy Outlook - November 2019

	2018				2019				2020				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2018	2019	2020
Electric Power Sector															
Geothermal	0.036	0.035	0.037	0.037	0.037	0.035	0.037	<i>0.037</i>	<i>0.037</i>	<i>0.034</i>	<i>0.037</i>	<i>0.037</i>	0.145	<i>0.146</i>	<i>0.145</i>
Hydroelectric Power (a)	0.699	0.779	0.581	0.586	0.653	0.743	0.584	<i>0.558</i>	<i>0.684</i>	<i>0.728</i>	<i>0.566</i>	<i>0.554</i>	2.645	<i>2.539</i>	<i>2.533</i>
Solar (b)	0.116	0.192	0.186	0.113	0.124	0.205	0.207	<i>0.127</i>	<i>0.150</i>	<i>0.245</i>	<i>0.262</i>	<i>0.163</i>	0.607	<i>0.663</i>	<i>0.820</i>
Waste Biomass (c)	0.073	0.070	0.067	0.069	0.066	0.065	0.051	<i>0.059</i>	<i>0.053</i>	<i>0.055</i>	<i>0.055</i>	<i>0.054</i>	0.280	<i>0.241</i>	<i>0.217</i>
Wood Biomass	0.057	0.052	0.055	0.051	0.054	0.051	0.044	<i>0.037</i>	<i>0.043</i>	<i>0.047</i>	<i>0.050</i>	<i>0.029</i>	0.215	<i>0.186</i>	<i>0.169</i>
Wind	0.720	0.688	0.493	0.630	0.683	0.737	0.584	<i>0.701</i>	<i>0.786</i>	<i>0.832</i>	<i>0.647</i>	<i>0.815</i>	2.530	<i>2.706</i>	<i>3.079</i>
Subtotal	1.702	1.818	1.418	1.485	1.617	1.837	1.507	<i>1.520</i>	<i>1.753</i>	<i>1.941</i>	<i>1.616</i>	<i>1.653</i>	6.423	<i>6.481</i>	<i>6.963</i>
Industrial Sector															
Biofuel Losses and Co-products (d)	0.204	0.204	0.211	0.206	0.194	0.203	0.199	<i>0.202</i>	<i>0.199</i>	<i>0.201</i>	<i>0.203</i>	<i>0.205</i>	0.824	<i>0.798</i>	<i>0.808</i>
Geothermal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	<i>0.001</i>	0.004	<i>0.004</i>	<i>0.004</i>
Hydroelectric Power (a)	0.003	0.003	0.003	0.003	0.002	0.002	0.003	<i>0.003</i>	<i>0.002</i>	<i>0.002</i>	<i>0.002</i>	<i>0.003</i>	0.013	<i>0.011</i>	<i>0.011</i>
Solar (b)	0.005	0.007	0.007	0.005	0.006	0.008	0.009	<i>0.006</i>	<i>0.007</i>	<i>0.010</i>	<i>0.010</i>	<i>0.007</i>	0.025	<i>0.029</i>	<i>0.033</i>
Waste Biomass (c)	0.044	0.041	0.039	0.044	0.043	0.039	0.039	<i>0.042</i>	<i>0.040</i>	<i>0.039</i>	<i>0.039</i>	<i>0.041</i>	0.168	<i>0.163</i>	<i>0.160</i>
Wood Biomass	0.382	0.382	0.389	0.388	0.371	0.367	0.365	<i>0.356</i>	<i>0.342</i>	<i>0.338</i>	<i>0.349</i>	<i>0.350</i>	1.540	<i>1.460</i>	<i>1.378</i>
Subtotal	0.638	0.636	0.647	0.647	0.616	0.618	0.611	<i>0.609</i>	<i>0.588</i>	<i>0.587</i>	<i>0.598</i>	<i>0.606</i>	2.568	<i>2.454</i>	<i>2.379</i>
Commercial Sector															
Geothermal	0.005	0.005	0.005	0.005	0.006	0.006	0.006	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	<i>0.006</i>	0.020	<i>0.023</i>	<i>0.023</i>
Solar (b)	0.019	0.029	0.029	0.019	0.022	0.032	0.033	<i>0.023</i>	<i>0.027</i>	<i>0.039</i>	<i>0.040</i>	<i>0.028</i>	0.096	<i>0.110</i>	<i>0.134</i>
Waste Biomass (c)	0.011	0.011	0.010	0.011	0.011	0.009	0.011	<i>0.012</i>	<i>0.010</i>	<i>0.009</i>	<i>0.010</i>	<i>0.012</i>	0.044	<i>0.042</i>	<i>0.041</i>
Wood Biomass	0.021	0.021	0.021	0.021	0.021	0.021	0.022	<i>0.021</i>	<i>0.021</i>	<i>0.020</i>	<i>0.022</i>	<i>0.021</i>	0.084	<i>0.084</i>	<i>0.084</i>
Subtotal	0.063	0.072	0.072	0.064	0.066	0.075	0.078	<i>0.068</i>	<i>0.071</i>	<i>0.081</i>	<i>0.084</i>	<i>0.073</i>	0.271	<i>0.287</i>	<i>0.310</i>
Residential Sector															
Geothermal	0.010	0.010	0.010	0.010	0.010	0.010	0.010	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	<i>0.010</i>	0.040	<i>0.040</i>	<i>0.040</i>
Solar (e)	0.043	0.066	0.067	0.046	0.050	0.077	0.079	<i>0.055</i>	<i>0.059</i>	<i>0.091</i>	<i>0.094</i>	<i>0.066</i>	0.222	<i>0.261</i>	<i>0.310</i>
Wood Biomass	0.128	0.129	0.130	0.130	0.131	0.132	0.131	<i>0.130</i>	<i>0.131</i>	<i>0.132</i>	<i>0.131</i>	<i>0.130</i>	0.517	<i>0.525</i>	<i>0.525</i>
Subtotal	0.180	0.205	0.207	0.186	0.191	0.219	0.220	<i>0.195</i>	<i>0.200</i>	<i>0.233</i>	<i>0.235</i>	<i>0.206</i>	0.779	<i>0.825</i>	<i>0.874</i>
Transportation Sector															
Biomass-based Diesel (f)	0.053	0.071	0.072	0.063	0.058	0.071	0.073	<i>0.085</i>	<i>0.074</i>	<i>0.084</i>	<i>0.076</i>	<i>0.082</i>	0.260	<i>0.287</i>	<i>0.316</i>
Ethanol (f)	0.272	0.289	0.294	0.290	0.275	0.293	0.287	<i>0.286</i>	<i>0.272</i>	<i>0.291</i>	<i>0.293</i>	<i>0.290</i>	1.145	<i>1.141</i>	<i>1.147</i>
Subtotal	0.325	0.360	0.366	0.353	0.333	0.365	0.355	<i>0.371</i>	<i>0.346</i>	<i>0.375</i>	<i>0.369</i>	<i>0.372</i>	1.405	<i>1.424</i>	<i>1.463</i>
All Sectors Total															
Biomass-based Diesel (f)	0.053	0.071	0.072	0.063	0.058	0.071	0.073	<i>0.085</i>	<i>0.074</i>	<i>0.084</i>	<i>0.076</i>	<i>0.082</i>	0.260	<i>0.287</i>	<i>0.316</i>
Biofuel Losses and Co-products (d)	0.204	0.204	0.211	0.206	0.194	0.203	0.199	<i>0.202</i>	<i>0.199</i>	<i>0.201</i>	<i>0.203</i>	<i>0.205</i>	0.824	<i>0.798</i>	<i>0.808</i>
Ethanol (f)	0.283	0.300	0.305	0.301	0.285	0.305	0.302	<i>0.296</i>	<i>0.282</i>	<i>0.302</i>	<i>0.304</i>	<i>0.301</i>	1.188	<i>1.187</i>	<i>1.190</i>
Geothermal	0.053	0.053	0.055	0.055	0.055	0.053	0.053	<i>0.054</i>	<i>0.054</i>	<i>0.051</i>	<i>0.054</i>	<i>0.054</i>	0.216	<i>0.215</i>	<i>0.212</i>
Hydroelectric Power (a)	0.703	0.783	0.584	0.590	0.656	0.746	0.588	<i>0.562</i>	<i>0.687</i>	<i>0.731</i>	<i>0.569</i>	<i>0.558</i>	2.660	<i>2.552</i>	<i>2.545</i>
Solar (b)(e)	0.182	0.292	0.286	0.182	0.200	0.320	0.322	<i>0.212</i>	<i>0.243</i>	<i>0.385</i>	<i>0.405</i>	<i>0.264</i>	0.942	<i>1.055</i>	<i>1.297</i>
Waste Biomass (c)	0.128	0.122	0.117	0.125	0.120	0.114	0.101	<i>0.113</i>	<i>0.104</i>	<i>0.103</i>	<i>0.104</i>	<i>0.107</i>	0.492	<i>0.447</i>	<i>0.418</i>
Wood Biomass	0.587	0.584	0.596	0.590	0.577	0.570	0.562	<i>0.544</i>	<i>0.536</i>	<i>0.537</i>	<i>0.552</i>	<i>0.530</i>	2.357	<i>2.254</i>	<i>2.156</i>
Wind	0.720	0.688	0.493	0.630	0.683	0.737	0.584	<i>0.701</i>	<i>0.786</i>	<i>0.832</i>	<i>0.647</i>	<i>0.815</i>	2.530	<i>2.706</i>	<i>3.079</i>
Total Consumption	2.908	3.091	2.711	2.736	2.823	3.113	2.783	<i>2.764</i>	<i>2.958</i>	<i>3.217</i>	<i>2.903</i>	<i>2.910</i>	11.446	<i>11.483</i>	<i>11.989</i>

- = no data available

(a) Conventional hydroelectric power only. Hydroelectricity generated by pumped storage is not included in renewable energy.

(b) Solar consumption in the electric power, commercial, and industrial sectors includes energy produced from large scale (>1 MW) solar thermal and photovoltaic generators and small-scale (<1 MW) distributed solar photovoltaic systems.

(c) Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

(d) Losses and co-products from the production of fuel ethanol and biomass-based diesel

(e) Solar consumption in the residential sector includes energy from small-scale (<1 MW) solar photovoltaic systems. Also includes solar heating consumption in all sectors.

(f) Fuel ethanol and biomass-based diesel consumption in the transportation sector includes production, stock change, and imports less exports. Some biomass-based diesel may be consumed in the residential sector in heating oil.

Notes: The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from EIA databases supporting the following reports: *Electric Power Monthly*, DOE/EIA-0226 and *Renewable Energy Annual*, DOE/EIA-0603; *Petroleum Supply Monthly*, DOE/EIA-0109.

Minor discrepancies with published historical data are due to independent rounding.

Projections: EIA Regional Short-Term Energy Model.