

**Table 21. Coal Productivity by State and Mine Type, 2022 and 2021**

Coal-Producing State, Region <sup>1</sup> and Mine Type	Number of Mining Operations <sup>2</sup>			Number of Employees <sup>3</sup>			Average Production per Employee Hour (short tons) <sup>4</sup>		
	2022	2021	Percent Change	2022	2021	Percent Change	2022	2021	Percent Change
<b>Alabama</b>	<b>28</b>	<b>26</b>	<b>7.7</b>	<b>2,098</b>	<b>1,731</b>	<b>21.2</b>	<b>1.85</b>	<b>2.10</b>	<b>-11.7</b>
Underground	10	10	-	1,678	1,385	21.2	1.98	2.20	-9.9
Surface	18	16	12.5	420	346	21.4	1.28	1.67	-23.3
<b>Alaska</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>99</b>	<b>103</b>	<b>-3.9</b>	<b>5.33</b>	<b>5.33</b>	<b>-</b>
Surface	1	1	-	99	103	-3.9	5.33	5.33	-
<b>Colorado</b>	<b>11</b>	<b>9</b>	<b>22.2</b>	<b>1,284</b>	<b>1,068</b>	<b>20.2</b>	<b>5.07</b>	<b>5.43</b>	<b>-6.8</b>
Underground	6	6	-	914	721	26.8	4.72	4.82	-2.1
Surface	5	3	66.7	370	347	6.6	5.87	6.71	-12.4
<b>Illinois</b>	<b>21</b>	<b>19</b>	<b>10.5</b>	<b>2,162</b>	<b>2,017</b>	<b>7.2</b>	<b>7.79</b>	<b>8.36</b>	<b>-6.8</b>
Underground	12	12	-	2,063	1,965	5.0	7.93	8.45	-6.2
Surface	9	7	28.6	99	52	90.4	4.52	4.30	5.1
<b>Indiana</b>	<b>17</b>	<b>15</b>	<b>13.3</b>	<b>2,275</b>	<b>1,806</b>	<b>26.0</b>	<b>4.34</b>	<b>4.82</b>	<b>-10.0</b>
Underground	6	6	-	1,358	1,092	24.4	3.99	4.13	-3.4
Surface	11	9	22.2	917	714	28.4	4.91	5.98	-17.9
<b>Kentucky Total</b>	<b>158</b>	<b>149</b>	<b>6.0</b>	<b>4,815</b>	<b>4,194</b>	<b>14.8</b>	<b>2.52</b>	<b>2.79</b>	<b>-10.0</b>
Underground	68	60	13.3	3,591	3,084	16.4	2.60	3.00	-13.3
Surface	90	89	1.1	1,224	1,110	10.3	2.24	2.15	4.2
<b>Kentucky (East)</b>	<b>152</b>	<b>140</b>	<b>8.6</b>	<b>3,231</b>	<b>2,678</b>	<b>20.6</b>	<b>1.64</b>	<b>1.75</b>	<b>-6.2</b>
Underground	62	54	14.8	2,007	1,600	25.4	1.30	1.53	-15.0
Surface	90	86	4.7	1,224	1,078	13.5	2.24	2.12	6.0
<b>Kentucky (West)</b>	<b>6</b>	<b>9</b>	<b>-33.3</b>	<b>1,584</b>	<b>1,516</b>	<b>4.5</b>	<b>4.13</b>	<b>4.43</b>	<b>-6.8</b>
Underground	6	6	-	1,584	1,484	6.7	4.13	4.45	-7.4
Surface	-	3	-	-	32	-	-	3.19	-
<b>Louisiana</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>35</b>	<b>34</b>	<b>2.9</b>	<b>4.30</b>	<b>4.57</b>	<b>-5.8</b>
Surface	1	1	-	35	34	2.9	4.30	4.57	-5.8
<b>Maryland</b>	<b>15</b>	<b>11</b>	<b>36.4</b>	<b>274</b>	<b>216</b>	<b>26.9</b>	<b>2.46</b>	<b>2.61</b>	<b>-5.8</b>
Underground	2	2	-	124	114	8.8	1.14	1.51	-24.2
Surface	13	9	44.4	150	102	47.1	3.45	3.79	-9.1
<b>Mississippi</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>231</b>	<b>205</b>	<b>12.7</b>	<b>6.97</b>	<b>7.49</b>	<b>-6.8</b>
Surface	1	1	-	231	205	12.7	6.97	7.49	-6.8
<b>Missouri</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>7</b>	<b>8</b>	<b>-12.5</b>	<b>5.54</b>	<b>4.29</b>	<b>29.1</b>
Surface	1	1	-	7	8	-12.5	5.54	4.29	29.1
<b>Montana</b>	<b>6</b>	<b>7</b>	<b>-14.3</b>	<b>954</b>	<b>930</b>	<b>2.6</b>	<b>15.24</b>	<b>15.88</b>	<b>-4.1</b>
Underground	1	1	-	230	245	-6.1	15.31	14.47	5.8
Surface	5	6	-16.7	724	685	5.7	15.21	16.43	-7.4
<b>New Mexico</b>	<b>3</b>	<b>3</b>	<b>-</b>	<b>772</b>	<b>820</b>	<b>-5.9</b>	<b>6.92</b>	<b>5.89</b>	<b>17.4</b>
Underground	1	1	-	183	235	-22.1	4.43	3.38	30.9
Surface	2	2	-	589	585	0.7	7.69	6.95	10.7
<b>North Dakota</b>	<b>5</b>	<b>5</b>	<b>-</b>	<b>1,186</b>	<b>1,176</b>	<b>0.9</b>	<b>11.77</b>	<b>11.96</b>	<b>-1.6</b>
Surface	5	5	-	1,186	1,176	0.9	11.77	11.96	-1.6
<b>Ohio</b>	<b>14</b>	<b>13</b>	<b>7.7</b>	<b>413</b>	<b>354</b>	<b>16.7</b>	<b>2.96</b>	<b>3.48</b>	<b>-14.9</b>
Underground	5	6	-16.7	233	213	9.4	3.08	3.69	-16.6
Surface	9	7	28.6	180	141	27.7	2.85	3.16	-9.8
<b>Oklahoma</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>1.63</b>	<b>0.47</b>	<b>244.8</b>
Surface	1	1	-	1	1	-	1.63	0.47	244.8
<b>Pennsylvania Total</b>	<b>158</b>	<b>163</b>	<b>-3.1</b>	<b>4,492</b>	<b>4,334</b>	<b>3.6</b>	<b>4.14</b>	<b>4.59</b>	<b>-9.9</b>
Underground	47	49	-4.1	3,172	3,087	2.8	5.08	5.64	-10.0
Surface	111	114	-2.6	1,320	1,247	5.9	1.70	1.76	-3.9
<b>Pennsylvania (Anthracite)</b>	<b>71</b>	<b>70</b>	<b>1.4</b>	<b>851</b>	<b>810</b>	<b>5.1</b>	<b>1.41</b>	<b>1.29</b>	<b>9.4</b>
Underground	15	14	7.1	57	57	-	0.55	0.62	-11.0
Surface	56	56	-	794	753	5.4	1.47	1.33	10.1
<b>Pennsylvania (Bituminous)</b>	<b>87</b>	<b>93</b>	<b>-6.5</b>	<b>3,641</b>	<b>3,524</b>	<b>3.3</b>	<b>4.71</b>	<b>5.28</b>	<b>-10.6</b>
Underground	32	35	-8.6	3,115	3,030	2.8	5.14	5.71	-9.9
Surface	55	58	-5.2	526	494	6.5	2.02	2.41	-15.9
<b>Tennessee</b>	<b>2</b>	<b>1</b>	<b>100.0</b>	<b>8</b>	<b>4</b>	<b>100.0</b>	<b>0.3</b>	<b>-</b>	<b>-</b>
Underground	1	1	-	4	4	-	-	-	-

Coal-Producing State, Region <sup>1</sup> and Mine Type	Number of Mining Operations <sup>2</sup>			Number of Employees <sup>3</sup>			Average Production per Employee Hour (short tons) <sup>4</sup>		
	2022	2021	Percent Change	2022	2021	Percent Change	2022	2021	Percent Change
Surface	1	-	-	4	-	-	0.6	-	-
<b>Texas</b>	<b>4</b>	<b>5</b>	<b>-20.0</b>	<b>904</b>	<b>1,037</b>	<b>-12.8</b>	<b>8.71</b>	<b>7.88</b>	<b>10.5</b>
Surface	4	5	-20.0	904	1,037	-12.8	8.71	7.88	10.5
<b>Utah</b>	<b>13</b>	<b>13</b>	<b>-</b>	<b>1,398</b>	<b>1,371</b>	<b>2.0</b>	<b>3.66</b>	<b>4.20</b>	<b>-12.6</b>
Underground	9	9	-	1,346	1,313	2.5	3.72	4.27	-12.8
Surface	4	4	-	52	58	-10.3	2.52	2.86	-12.0
<b>Virginia</b>	<b>65</b>	<b>51</b>	<b>27.5</b>	<b>2,325</b>	<b>1,942</b>	<b>19.7</b>	<b>2.01</b>	<b>2.41</b>	<b>-16.5</b>
Underground	22	18	22.2	1,501	1,312	14.4	2.17	2.64	-17.8
Surface	43	33	30.3	824	630	30.8	1.71	1.90	-9.9
<b>West Virginia Total</b>	<b>235</b>	<b>205</b>	<b>14.6</b>	<b>12,997</b>	<b>11,511</b>	<b>12.9</b>	<b>2.78</b>	<b>3.00</b>	<b>-7.5</b>
Underground	111	93	19.4	10,219	9,099	12.3	2.89	3.09	-6.3
Surface	124	112	10.7	2,778	2,412	15.2	2.34	2.63	-11.1
<b>West Virginia (Northern)</b>	<b>24</b>	<b>23</b>	<b>4.3</b>	<b>4,427</b>	<b>4,101</b>	<b>7.9</b>	<b>4.53</b>	<b>4.73</b>	<b>-4.2</b>
Underground	16	14	14.3	4,324	4,008	7.9	4.58	4.76	-3.8
Surface	8	9	-11.1	103	93	10.8	2.22	2.74	-18.8
<b>West Virginia (Southern)</b>	<b>211</b>	<b>182</b>	<b>15.9</b>	<b>8,570</b>	<b>7,410</b>	<b>15.7</b>	<b>1.85</b>	<b>2.03</b>	<b>-8.8</b>
Underground	95	79	20.3	5,895	5,091	15.8	1.63	1.78	-8.8
Surface	116	103	12.6	2,675	2,319	15.4	2.34	2.63	-10.9
<b>Wyoming</b>	<b>16</b>	<b>16</b>	<b>-</b>	<b>4,794</b>	<b>4,567</b>	<b>5.0</b>	<b>25.53</b>	<b>26.73</b>	<b>-4.5</b>
Underground	-	1	-	-	112	-	-	13.10	-
Surface	16	15	6.7	4,794	4,455	7.6	25.53	27.12	-5.9
<b>Appalachia Total</b>	<b>669</b>	<b>610</b>	<b>9.7</b>	<b>25,838</b>	<b>22,770</b>	<b>13.5</b>	<b>2.70</b>	<b>3.02</b>	<b>-10.7</b>
Underground	260	233	11.6	18,938	16,814	12.6	2.91	3.27	-11.1
Surface	409	377	8.5	6,900	5,956	15.8	2.10	2.26	-6.8
<b>Appalachia Central</b>	<b>430</b>	<b>374</b>	<b>15.0</b>	<b>14,134</b>	<b>12,034</b>	<b>17.5</b>	<b>1.83</b>	<b>2.03</b>	<b>-10.0</b>
Underground	180	152	18.4	9,407	8,007	17.5	1.64	1.87	-12.3
Surface	250	222	12.6	4,727	4,027	17.4	2.21	2.38	-7.2
<b>Appalachia Northern</b>	<b>211</b>	<b>210</b>	<b>0.5</b>	<b>9,606</b>	<b>9,005</b>	<b>6.7</b>	<b>4.23</b>	<b>4.56</b>	<b>-7.3</b>
Underground	70	71	-1.4	7,853	7,422	5.8	4.69	5.03	-6.9
Surface	141	139	1.4	1,753	1,583	10.7	2.03	2.09	-3.2
<b>Appalachia Southern</b>	<b>28</b>	<b>26</b>	<b>7.7</b>	<b>2,098</b>	<b>1,731</b>	<b>21.2</b>	<b>1.85</b>	<b>2.10</b>	<b>-11.7</b>
Underground	10	10	-	1,678	1,385	21.2	1.98	2.20	-9.9
Surface	18	16	12.5	420	346	21.4	1.28	1.67	-23.3
<b>Interior Region Total</b>	<b>52</b>	<b>52</b>	<b>-</b>	<b>7,199</b>	<b>6,624</b>	<b>8.7</b>	<b>5.87</b>	<b>6.30</b>	<b>-6.8</b>
Underground	24	24	-	5,005	4,541	10.2	5.56	6.02	-7.7
Surface	28	28	-	2,194	2,083	5.3	6.65	6.97	-4.6
<b>Illinois Basin</b>	<b>44</b>	<b>43</b>	<b>2.3</b>	<b>6,021</b>	<b>5,339</b>	<b>12.8</b>	<b>5.45</b>	<b>5.98</b>	<b>-8.9</b>
Underground	24	24	-	5,005	4,541	10.2	5.56	6.02	-7.7
Surface	20	19	5.3	1,016	798	27.3	4.88	5.76	-15.4
<b>Other Interior</b>	<b>8</b>	<b>9</b>	<b>-11.1</b>	<b>1,178</b>	<b>1,285</b>	<b>-8.3</b>	<b>8.23</b>	<b>7.72</b>	<b>6.7</b>
Surface	8	9	-11.1	1,178	1,285	-8.3	8.23	7.72	6.7
<b>Western Region Total</b>	<b>55</b>	<b>54</b>	<b>1.9</b>	<b>10,487</b>	<b>10,035</b>	<b>4.5</b>	<b>16.04</b>	<b>16.54</b>	<b>-3.0</b>
Underground	17	18	-5.6	2,673	2,626	1.8	5.14	5.66	-9.3
Surface	38	36	5.6	7,814	7,409	5.5	19.84	20.70	-4.1
<b>Powder River Basin</b>	<b>16</b>	<b>17</b>	<b>-5.9</b>	<b>4,925</b>	<b>4,541</b>	<b>8.5</b>	<b>26.19</b>	<b>28.27</b>	<b>-7.3</b>
Surface	16	17	-5.9	4,925	4,541	8.5	26.19	28.27	-7.3
<b>Uinta Basin</b>	<b>20</b>	<b>18</b>	<b>11.1</b>	<b>2,428</b>	<b>2,261</b>	<b>7.4</b>	<b>4.48</b>	<b>4.88</b>	<b>-8.1</b>
Underground	12	12	-	2,027	1,883	7.6	4.30	4.63	-7.1
Surface	8	6	33.3	401	378	6.1	5.39	6.15	-12.4
<b>Other Western</b>	<b>19</b>	<b>19</b>	<b>-</b>	<b>3,134</b>	<b>3,233</b>	<b>-3.1</b>	<b>8.98</b>	<b>8.69</b>	<b>3.3</b>
Underground	5	6	-16.7	646	743	-13.1	8.03	8.43	-4.8
Surface	14	13	7.7	2,488	2,490	-0.1	9.22	8.78	5.0
<b>East of Mississippi River</b>	<b>714</b>	<b>654</b>	<b>9.2</b>	<b>32,090</b>	<b>28,314</b>	<b>13.3</b>	<b>3.25</b>	<b>3.61</b>	<b>-9.9</b>
Underground	284	257	10.5	23,943	21,355	12.1	3.47	3.85	-9.8
Surface	430	397	8.3	8,147	6,959	17.1	2.58	2.81	-8.3
<b>West of Mississippi River</b>	<b>62</b>	<b>62</b>	<b>-</b>	<b>11,434</b>	<b>11,115</b>	<b>2.9</b>	<b>15.37</b>	<b>15.64</b>	<b>-1.7</b>
Underground	17	18	-5.6	2,673	2,626	1.8	5.14	5.66	-9.3
Surface	45	44	2.3	8,761	8,489	3.2	18.52	18.94	-2.2
<b>U.S. Subtotal</b>	<b>776</b>	<b>716</b>	<b>8.4</b>	<b>43,524</b>	<b>39,429</b>	<b>10.4</b>	<b>6.11</b>	<b>6.71</b>	<b>-8.9</b>
Underground	301	275	9.5	26,616	23,981	11.0	3.62	4.03	-10.2

Coal-Producing State, Region <sup>1</sup> and Mine Type	Number of Mining Operations <sup>2</sup>			Number of Employees <sup>3</sup>			Average Production per Employee Hour (short tons) <sup>4</sup>		
	2022	2021	Percent Change	2022	2021	Percent Change	2022	2021	Percent Change
Surface	475	441	7.7	16,908	15,448	9.5	10.39	11.38	-8.7
<b>Refuse Recovery</b>	<b>17</b>	<b>14</b>	<b>21.4</b>	<b>58</b>	<b>89</b>	<b>-34.8</b>	<b>5.36</b>	<b>9.37</b>	<b>-42.8</b>
<b>U.S. Total</b>	<b>793</b>	<b>730</b>	<b>8.6</b>	<b>43,582</b>	<b>39,518</b>	<b>10.3</b>	<b>6.11</b>	<b>6.71</b>	<b>-8.9</b>

- = No data reported.

1 For a definition of coal producing regions, see the Glossary.

2 Mining operations that consist of a mine and preparation plant or preparation plant processing both underground and surface coal are reported as two operations.

3 Includes all employees engaged in production, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

4 Calculated by dividing total coal production by the total labor hours worked by all employees engaged in production, processing, development, maintenance, repair shop, or yard work at mining operations, including office workers.

Note: Excludes preparation plants with less than 5,000 employee hours per year, which are not required to provide data.

Sources: U.S. Energy Information Administration Form EIA-7A, 'Annual Survey of Coal Production and Preparation,' and U.S. Department of Labor, Mine Safety and Health Administration Form 7000-2, 'Quarterly Mine Employment and Coal Production Report.'