

**Table 18. Coefficients for Technology Possibility Curve**

Industry/Process Unit	Existing Facilities		New Facilities		
	REI 2025 <sup>1</sup>	TPC <sup>2</sup>	REI 1998 <sup>3</sup>	REI 2025 <sup>4</sup>	TPC <sup>2</sup>
<b>Food &amp; Kindred Products</b>					
Process Heating	0.900	-0.0039	0.900	0.800	-0.0044
Process Cooling	0.876	-0.0049	0.850	0.750	-0.0046
Other	0.915	-0.0033	0.915	0.810	-0.0045
<b>Paper &amp; Allied Products</b>					
Wood Preparation	0.922	-0.0030	0.873	0.845	-0.0012
Waste Pulping	0.942	-0.0022	0.936	0.882	-0.0022
Mechanical Pulping	0.917	-0.0032	0.868	0.834	-0.0015
Semi-chemical	0.873	-0.0050	0.876	0.747	-0.0059
Kraft, Sulfite, misc. Chemicals	0.816	-0.0075	0.876	0.632	-0.0121
Bleaching	0.871	-0.0051	0.900	0.742	-0.0071
Paper Making	0.796	-0.0084	0.900	0.592	-0.0154
<b>Bulk Chemicals</b>					
Process Heating	0.900	-0.0039	0.900	0.800	-0.0044
Process Cooling	0.876	-0.0049	0.850	0.751	-0.0046
Electro-Chemical	0.981	-0.0007	0.950	0.850	-0.0041
Other	0.915	-0.0033	0.913	0.808	-0.0045
<b>Glass &amp; Glass Products<sup>5</sup></b>					
Batch Preparation	0.940	-0.0023	0.882	0.882	0.0000
Melting/Refining	0.712	-0.0125	0.900	0.422	-0.0277
Forming	0.905	-0.0037	0.982	0.808	-0.0072
Post-Forming	0.925	-0.0029	0.968	0.850	-0.0048
<b>Hydraulic Cement</b>					
Dry Process	0.840	-0.0064	0.889	0.747	-0.0064
Wet Process <sup>6</sup>	0.935	-0.0025	NA	NA	NA
Finish Grinding	0.836	-0.0066	0.950	0.673	-0.0127
<b>Blast Furnaces &amp; Basic Steel</b>					
Coke Oven <sup>6</sup>	0.915	-0.0033	0.874	0.830	-0.0019
BF/BOF	0.989	-0.0004	1.000	0.979	-0.0008
EAF	0.995	-0.0002	0.995	0.990	0.0000
Ingot Casting/Primary Rolling <sup>6</sup>	1.000	0.0000	NA	NA	NA
Continuous Casting <sup>7</sup>	1.000	0.0000	1.000	1.000	0.0000
Hot Rolling <sup>7</sup>	0.742	-0.0110	0.742	0.485	-0.0160
Cold Rolling <sup>7</sup>	0.738	-0.0112	0.924	0.474	-0.0244
<b>Aluminum</b>					
Alumina Refining	0.930	-0.0027	0.900	0.862	-0.0016
Primary Smelting	0.910	-0.0035	0.950	0.816	-0.0056
Secondary	0.781	-0.0091	0.750	0.561	-0.0107
Semi-Fabrication, Sheet	0.746	-0.0108	0.900	0.491	-0.0222
Semi-Fabrication, Other	0.873	-0.0050	0.950	0.748	-0.0088
<b>Metal Based Durables</b>					
Process Heating	0.900	-0.0039	0.900	0.799	-0.0044
Process Cooling	0.876	-0.0049	0.851	0.751	-0.0046
Electro-Chemical	0.981	-0.0007	0.955	0.855	-0.0041
Other	0.915	-0.0033	0.915	0.810	-0.0045

**Table 18. Coefficients for Technology Possibility Curves (Continued)**

Industry/Process Unit	Existing Facilities		New Facilities		
	REI 2025 <sup>1</sup>	TPC <sup>2</sup>	REI 1998 <sup>3</sup>	REI 2025 <sup>4</sup>	TPC <sup>2</sup>
<b>Balance of Manufacturing</b>					
Process Heating	0.900	-0.0039	0.900	0.799	-0.0044
Process Cooling	0.876	-0.0049	0.851	0.751	-0.0046
Electro-Chemical	0.981	-0.0007	0.955	0.855	-0.0041
Other	0.915	-0.0033	0.915	0.810	-0.0045
<b>Non-Manufacturing</b>	0.973	-0.0010	0.900	0.853	-0.0020

<sup>1</sup>REI 2025 Existing Facilities = Ratio of 2025 energy intensity to average 1998 energy intensity for existing facilities.

<sup>2</sup>TPC = annual rate of change between 1998 and 2025.

<sup>3</sup>REI 1998 New Facilities = For new facilities, the ratio of state-of-the-art energy intensity to average 1998 energy intensity for existing facilities.

<sup>4</sup>REI 2025 New Facilities = Ratio of 2025 energy intensity for a new state-of-the-art facility to the average 1998 intensity for existing facilities.

<sup>5</sup>REIs and TPCs apply to virgin and recycled materials.

<sup>6</sup>No new plants are likely to be built with these technologies.

<sup>7</sup>Net shape casting is projected to reduce the energy requirements for hot and cold rolling rather than for the continuous casting step.

NA = Not applicable.

BF = Blast furnace.

BOF = Basic oxygen furnace.

EAF = Electric arc furnace.

Source: Energy Information Administration, *Model Documentation Report, Industrial Sector Demand Module of the National Energy Modeling System*, DOE/EIA-M064(2004) (Washington, DC, 2004).