

APPENDIX D
DETAILED RESULTS

APPENDIX D-2
INDUSTRY

Industrial Sector Forecast Summary
CEF-NEMS Business As Usual (990811)

<i>demand side efficiency</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>
<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>supply side efficiency</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>	<i>Base</i>
	<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Energy Consumption (Quadrillion Btu)</i>						
Purchased Electricity	3.5	3.6	3.8	4.1	4.3	4.5
Natural Gas	9.9	10.3	10.6	11.1	11.6	11.9
Stream Coal	1.6	1.6	1.6	1.7	1.7	1.7
Metallurgical Coal and Coke	0.8	0.7	0.7	0.7	0.7	0.7
Residual Fuel	0.3	0.3	0.3	0.3	0.3	0.3
Distillate	1.1	1.1	1.2	1.3	1.4	1.5
Liquefied Petroleum Gas	2.1	2.2	2.3	2.4	2.5	2.6
Petrochemical Feedstocks	1.5	1.5	1.4	1.5	1.6	1.7
Other Petroleum	4.3	4.7	4.9	5.2	5.2	5.3
Renewables	1.9	2.0	2.1	2.3	2.5	2.6
Total Site Energy	27.0	27.9	29.1	30.6	31.7	32.7
<i>Electricity Related Losses</i>						
Electricity + Losses	7.8	7.9	7.9	8.2	8.4	8.6
Fossil Fuels	11.3	11.5	11.7	12.3	12.7	13.0
Renewables	21.6	22.4	23.1	24.2	25.0	25.7
Total Primary Energy	34.8	35.8	37.0	38.8	40.1	41.2
<i>Average Heatrate (kWh.primary/kWh.site)</i>	3.21	3.18	3.07	3.00	2.95	2.91
<i>Sub-sector Industry Output (billion 1987\$)</i>						
refining	139	142	148	157	161	165
food	395	413	438	470	498	522
paper	125	131	140	150	157	162
bulk chemicals	152	152	161	172	183	193
glass	20	19	20	20	21	22
cement	5	5	5	5	5	5
iron and steel	69	70	76	78	81	81
aluminum	29	28	29	29	29	29
agriculture	248	259	275	295	311	325
construction	428	453	504	568	611	657
mining	136	136	143	150	157	161
metal durables	1382	1461	1737	2081	2342	2617
other manufacturing	854	883	965	1061	1137	1193
total	3982	4151	4640	5237	5695	6133
<i>Average Efficiency (kBtu/1987\$ output)</i>	8.7	8.6	8.0	7.4	7.0	6.7

Industrial Sector Forecast Summary
CEF-NEMS Business As Usual (990811)

<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 Base 1997</i>	<i>Base 0 Base 2000</i>	<i>Base 0 Base 2005</i>	<i>Base 0 Base 2010</i>	<i>Base 0 Base 2015</i>	<i>Base 0 Base 2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu)</i>						
<i>Refining</i>						
petroleum	2.126	2.422	2.383	2.460	2.368	2.291
natural gas	0.800	0.903	1.061	1.143	1.241	1.300
coal	0.003	0.000	0.000	0.000	0.000	0.000
site electricity	0.110	0.153	0.169	0.195	0.197	0.200
total	3.039	3.478	3.613	3.798	3.806	3.791
<i>Food</i>						
petroleum	0.209	0.236	0.251	0.253	0.265	0.272
natural gas	0.625	0.652	0.643	0.662	0.683	0.701
coal	0.183	0.191	0.200	0.210	0.218	0.228
renewables	0.014	0.015	0.016	0.018	0.019	0.020
site electricity	0.208	0.215	0.221	0.231	0.242	0.251
total	1.240	1.309	1.331	1.373	1.426	1.471
<i>Paper</i>						
petroleum	0.122	0.130	0.122	0.109	0.103	0.096
natural gas	0.672	0.656	0.575	0.502	0.462	0.427
coal	0.394	0.383	0.352	0.314	0.290	0.269
renewables	1.483	1.550	1.667	1.807	1.915	1.997
site electricity	0.258	0.262	0.267	0.269	0.272	0.274
total	2.929	2.981	2.982	3.001	3.042	3.065
<i>Bulk Chemicals (energy)</i>						
petroleum	0.479	0.519	0.539	0.534	0.561	0.576
natural gas	2.188	2.216	2.198	2.244	2.320	2.395
coal	0.175	0.170	0.182	0.197	0.210	0.227
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.637	0.628	0.642	0.671	0.703	0.738
total	3.479	3.534	3.561	3.645	3.794	3.935
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	1.855	1.823	1.949	2.066	2.168	2.266
natural gas	1.461	1.470	1.435	1.519	1.593	1.665
LPG	0.660	0.686	0.698	0.739	0.775	0.810
total	3.976	3.979	4.082	4.324	4.536	4.741
<i>Glass</i>						
petroleum	0.003	0.003	0.003	0.003	0.003	0.003
natural gas	0.155	0.152	0.146	0.142	0.143	0.142
coal	0.000	0.000	0.000	0.000	0.000	0.000
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.031	0.029	0.030	0.030	0.031	0.031
total	0.189	0.185	0.178	0.175	0.176	0.176
<i>Cement</i>						
petroleum	0.036	0.034	0.036	0.036	0.035	0.033
natural gas	0.018	0.018	0.016	0.015	0.015	0.014
coal	0.315	0.312	0.311	0.317	0.316	0.313
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.030	0.029	0.030	0.031	0.031	0.031
total	0.399	0.393	0.393	0.398	0.395	0.391
<i>Iron and Steel</i>						
petroleum	0.118	0.122	0.124	0.114	0.109	0.103
natural gas	0.541	0.531	0.485	0.446	0.418	0.390
coal	0.873	0.809	0.816	0.799	0.798	0.783
site electricity	0.173	0.170	0.178	0.175	0.178	0.176
total	1.705	1.633	1.602	1.534	1.503	1.452

Industrial Sector Forecast Summary
CEF-NEMS Business As Usual (990811)

	<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 Base 1997</i>	<i>Base 0 Base 2000</i>	<i>Base 0 Base 2005</i>	<i>Base 0 Base 2010</i>	<i>Base 0 Base 2015</i>	<i>Base 0 Base 2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu) (continued)</i>							
<i>Aluminum</i>							
petroleum		0.000	0.000	0.000	0.000	0.000	0.000
natural gas		0.081	0.080	0.073	0.068	0.064	0.060
site electricity		0.183	0.176	0.174	0.166	0.160	0.153
total		0.264	0.256	0.248	0.234	0.224	0.213
<i>Agriculture</i>							
petroleum		0.782	0.793	0.871	0.932	0.979	1.020
natural gas		0.063	0.068	0.069	0.073	0.076	0.079
coal		0.001	0.001	0.001	0.000	0.000	0.000
renewables		0.023	0.024	0.026	0.028	0.030	0.032
site electricity		0.132	0.137	0.144	0.152	0.159	0.165
total		1.001	1.022	1.111	1.186	1.245	1.297
<i>Construction</i>							
petroleum		1.602	1.632	1.835	2.041	2.181	2.327
natural gas		0.200	0.218	0.231	0.256	0.273	0.290
site electricity		0.123	0.129	0.139	0.153	0.163	0.173
total		1.924	1.979	2.205	2.450	2.617	2.790
<i>Mining</i>							
petroleum		0.217	0.211	0.227	0.236	0.243	0.248
natural gas		1.661	1.720	1.919	2.072	2.231	2.358
coal		0.073	0.073	0.075	0.078	0.080	0.081
renewables		0.001	0.001	0.001	0.001	0.002	0.002
site electricity		0.296	0.292	0.300	0.310	0.319	0.323
total		2.248	2.297	2.522	2.697	2.874	3.012
<i>Metal Based Durables</i>							
petroleum		0.051	0.058	0.062	0.068	0.072	0.075
natural gas		0.763	0.823	0.906	1.029	1.109	1.186
coal		0.117	0.122	0.137	0.158	0.171	0.184
renewables		0.001	0.001	0.001	0.001	0.002	0.002
site electricity		0.589	0.616	0.701	0.811	0.893	0.977
total		1.520	1.620	1.807	2.068	2.247	2.423
<i>Other Manufacturing</i>							
petroleum		0.233	0.303	0.309	0.322	0.329	0.320
natural gas		1.497	1.545	1.612	1.704	1.763	1.791
coal		0.230	0.238	0.257	0.279	0.291	0.297
renewables		0.356	0.370	0.408	0.451	0.485	0.510
site electricity		0.754	0.770	0.825	0.891	0.945	0.981
total		3.070	3.226	3.411	3.647	3.813	3.900
<i>Total</i>							
petroleum		8.493	8.972	9.410	9.911	10.189	10.440
natural gas		10.726	11.051	11.368	11.876	12.391	12.799
coal		2.363	2.298	2.330	2.353	2.372	2.383
renewables		1.878	1.962	2.120	2.307	2.452	2.562
site electricity		3.523	3.608	3.818	4.083	4.293	4.473
total		26.983	27.890	29.046	30.530	31.698	32.656

Industrial Sector Forecast Summary
CEF-NEMS Business As Usual (990811)

Electricity as Primary energy

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<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 Base 1997</i>	<i>Base 0 Base 2000</i>	<i>Base 0 Base 2005</i>	<i>Base 0 Base 2010</i>	<i>Base 0 Base 2015</i>	<i>Base 0 Base 2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu)</i>						
<i>Refining</i>						
petroleum	2.126	2.422	2.383	2.460	2.368	2.291
natural gas	0.800	0.903	1.061	1.143	1.241	1.300
coal	0.003	0.000	0.000	0.000	0.000	0.000
primary electricity	0.352	0.488	0.519	0.585	0.581	0.583
total	3.281	3.812	3.963	4.188	4.190	4.174
<i>Food</i>						
petroleum	0.209	0.236	0.251	0.253	0.265	0.272
natural gas	0.625	0.652	0.643	0.662	0.683	0.701
coal	0.183	0.191	0.200	0.210	0.218	0.228
renewables	0.014	0.015	0.016	0.018	0.019	0.020
primary electricity	0.667	0.684	0.679	0.694	0.712	0.731
total	1.699	1.778	1.789	1.837	1.897	1.951
<i>Paper</i>						
petroleum	0.122	0.130	0.122	0.109	0.103	0.096
natural gas	0.672	0.656	0.575	0.502	0.462	0.427
coal	0.394	0.383	0.352	0.314	0.290	0.269
renewables	1.483	1.550	1.667	1.807	1.915	1.997
primary electricity	0.829	0.835	0.818	0.807	0.802	0.799
total	3.500	3.553	3.534	3.539	3.572	3.589
<i>Bulk Chemicals (energy)</i>						
petroleum	0.479	0.519	0.539	0.534	0.561	0.576
natural gas	2.188	2.216	2.198	2.244	2.320	2.395
coal	0.175	0.170	0.182	0.197	0.210	0.227
renewables	0.000	0.000	0.000	0.000	0.000	0.000
primary electricity	2.046	2.000	1.972	2.015	2.074	2.148
total	4.888	4.905	4.891	4.990	5.164	5.346
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	1.855	1.823	1.949	2.066	2.168	2.266
natural gas	1.461	1.470	1.435	1.519	1.593	1.665
LPG	0.660	0.686	0.698	0.739	0.775	0.810
total	3.976	3.979	4.082	4.324	4.536	4.741
<i>Glass</i>						
petroleum	0.003	0.003	0.003	0.003	0.003	0.003
natural gas	0.155	0.152	0.146	0.142	0.143	0.142
coal	0.000	0.000	0.000	0.000	0.000	0.000
renewables	0.000	0.000	0.000	0.000	0.000	0.000
primary electricity	0.098	0.093	0.091	0.090	0.090	0.091
total	0.256	0.249	0.239	0.235	0.236	0.235
<i>Cement</i>						
petroleum	0.036	0.034	0.036	0.036	0.035	0.033
natural gas	0.018	0.018	0.016	0.015	0.015	0.014
coal	0.315	0.312	0.311	0.317	0.316	0.313
renewables	0.000	0.000	0.000	0.000	0.000	0.000
primary electricity	0.096	0.091	0.091	0.092	0.091	0.089
total	0.465	0.456	0.454	0.459	0.455	0.450
<i>Iron and Steel</i>						
petroleum	0.118	0.122	0.124	0.114	0.109	0.103
natural gas	0.541	0.531	0.485	0.446	0.418	0.390
coal	0.873	0.809	0.816	0.799	0.798	0.783
primary electricity	0.556	0.542	0.545	0.527	0.525	0.511
total	2.087	2.005	1.970	1.886	1.850	1.787

Industrial Sector Forecast Summary
CEF-NEMS Business As Usual (990811)

Electricity as Primary energy

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<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 Base 1997</i>	<i>Base 0 Base 2000</i>	<i>Base 0 Base 2005</i>	<i>Base 0 Base 2010</i>	<i>Base 0 Base 2015</i>	<i>Base 0 Base 2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu) (continued)</i>						
<i>Aluminum</i>						
petroleum	0.000	0.000	0.000	0.000	0.000	0.000
natural gas	0.081	0.080	0.073	0.068	0.064	0.060
primary electricity	0.588	0.561	0.535	0.498	0.472	0.445
total	0.669	0.641	0.609	0.566	0.537	0.505
<i>Agriculture</i>						
petroleum	0.782	0.793	0.871	0.932	0.979	1.020
natural gas	0.063	0.068	0.069	0.073	0.076	0.079
coal	0.001	0.001	0.001	0.000	0.000	0.000
renewables	0.023	0.024	0.026	0.028	0.030	0.032
primary electricity	0.423	0.437	0.442	0.457	0.470	0.482
total	1.292	1.322	1.409	1.491	1.556	1.613
<i>Construction</i>						
petroleum	1.602	1.632	1.835	2.041	2.181	2.327
natural gas	0.200	0.218	0.231	0.256	0.273	0.290
primary electricity	0.394	0.411	0.427	0.459	0.479	0.504
total	2.195	2.260	2.493	2.756	2.933	3.121
<i>Mining</i>						
petroleum	0.217	0.211	0.227	0.236	0.243	0.248
natural gas	1.661	1.720	1.919	2.072	2.231	2.358
coal	0.073	0.073	0.075	0.078	0.080	0.081
renewables	0.001	0.001	0.001	0.001	0.002	0.002
primary electricity	0.950	0.929	0.920	0.930	0.940	0.942
total	2.903	2.933	3.143	3.318	3.495	3.631
<i>Metal Based Durables</i>						
petroleum	0.051	0.058	0.062	0.068	0.072	0.075
natural gas	0.763	0.823	0.906	1.029	1.109	1.186
coal	0.117	0.122	0.137	0.158	0.171	0.184
renewables	0.001	0.001	0.001	0.001	0.002	0.002
primary electricity	1.890	1.961	2.152	2.438	2.634	2.845
total	2.821	2.965	3.258	3.694	3.988	4.292
<i>Other Manufacturing</i>						
petroleum	0.233	0.303	0.309	0.322	0.329	0.320
natural gas	1.497	1.545	1.612	1.704	1.763	1.791
coal	0.230	0.238	0.257	0.279	0.291	0.297
renewables	0.356	0.370	0.408	0.451	0.485	0.510
primary electricity	2.421	2.451	2.533	2.678	2.788	2.857
total	4.736	4.907	5.119	5.434	5.655	5.776
<i>Total</i>						
petroleum	8.493	8.972	9.410	9.911	10.189	10.440
natural gas	10.726	11.051	11.368	11.876	12.391	12.799
coal	2.363	2.298	2.330	2.353	2.372	2.383
renewables	1.878	1.962	2.120	2.307	2.452	2.562
primary electricity	11.310	11.482	11.725	12.269	12.659	13.028
total	34.8	35.8	37.0	38.7	40.1	41.2

Industrial Sector Forecast Summary (MtC)
CEF-NEMS Business As Usual (990811)

<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 Base</i>	<i>Base 0 Base</i>	<i>Base 0 Base</i>	<i>Base 0 Base</i>	<i>Base 0 Base</i>	<i>Base 0 Base</i>
	1997	2000	2005	2010	2015	2020
<i>Sub-sector carbon emissions (MtC)</i>						
<i>Refining</i>						
petroleum	34.71	37.66	36.44	37.19	35.48	34.03
natural gas	10.94	12.22	14.50	15.59	16.93	17.71
coal	0.08	0.00	0.00	0.00	0.00	0.00
site electricity	5.46	7.90	8.44	9.59	9.59	9.64
total	51.19	57.78	59.37	62.37	61.99	61.37
<i>Food</i>						
petroleum	3.42	3.68	3.84	3.82	3.96	4.04
natural gas	8.55	8.82	8.78	9.03	9.31	9.55
coal	4.53	4.84	5.06	5.34	5.52	5.77
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	10.36	11.09	11.04	11.39	11.75	12.07
total	26.86	28.43	28.72	29.57	30.55	31.42
<i>Paper</i>						
petroleum	1.99	2.03	1.87	1.65	1.54	1.43
natural gas	9.20	8.87	7.86	6.85	6.31	5.82
coal	9.75	9.69	8.92	7.97	7.34	6.83
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	12.87	13.53	13.30	13.24	13.23	13.20
total	33.81	34.12	31.94	29.71	28.42	27.28
<i>Bulk Chemicals (energy)</i>						
petroleum	7.82	8.07	8.24	8.07	8.40	8.55
natural gas	29.93	30.00	30.03	30.61	31.64	32.62
coal	4.33	4.31	4.61	4.99	5.32	5.75
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	31.77	32.42	32.04	33.06	34.21	35.48
total	73.85	74.79	74.93	76.73	79.57	82.41
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	6.06	5.67	5.96	6.25	6.50	6.73
natural gas	15.47	15.40	15.18	16.04	16.82	17.55
LPG	2.15	2.13	2.13	2.23	2.32	2.41
total	23.68	23.21	23.27	24.52	25.64	26.69
<i>Glass</i>						
petroleum	0.04	0.05	0.04	0.04	0.04	0.04
natural gas	2.12	2.06	1.99	1.94	1.95	1.94
coal	0.00	0.00	0.00	0.00	0.00	0.00
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	1.52	1.51	1.47	1.47	1.49	1.50
total	3.69	3.62	3.51	3.45	3.47	3.47
<i>Cement</i>						
petroleum	0.59	0.53	0.55	0.54	0.52	0.49
natural gas	0.25	0.25	0.22	0.21	0.20	0.19
coal	7.80	7.90	7.89	8.04	8.00	7.94
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	1.49	1.48	1.47	1.50	1.49	1.48
total fuel	10.13	10.16	10.13	10.29	10.20	10.10
process emissions	11.16	10.69	11.34	12.02	12.25	12.41
total	21.29	20.85	21.48	22.31	22.45	22.51
<i>Iron and Steel</i>						
petroleum	1.93	1.90	1.90	1.72	1.64	1.53
natural gas	7.40	7.19	6.62	6.08	5.70	5.31
coal	21.61	20.50	20.70	20.28	20.21	19.85
site electricity	8.63	8.79	8.86	8.65	8.66	8.45
total	39.56	38.38	38.08	36.72	36.21	35.14

Industrial Sector Forecast Summary (MtC)
CEF-NEMS Business As Usual (990811)

<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 Base 1997</i>	<i>Base 0 Base 2000</i>	<i>Base 0 Base 2005</i>	<i>Base 0 Base 2010</i>	<i>Base 0 Base 2015</i>	<i>Base 0 Base 2020</i>
<i>Sub-sector carbon emissions (MtC)</i>						
<i>Aluminum</i>						
petroleum	0.00	0.00	0.00	0.00	0.00	0.00
natural gas	1.11	1.08	1.00	0.93	0.88	0.82
site electricity	9.14	9.09	8.70	8.16	7.79	7.35
total	10.24	10.17	9.70	9.09	8.67	8.17
<i>Agriculture</i>						
petroleum	12.77	12.32	13.32	14.08	14.67	15.15
natural gas	0.87	0.92	0.95	1.00	1.04	1.08
coal	0.01	0.01	0.01	0.01	0.01	0.01
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	6.57	7.08	7.18	7.50	7.75	7.96
total	20.22	20.33	21.46	22.59	23.47	24.19
<i>Construction</i>						
petroleum	26.15	25.38	28.06	30.85	32.68	34.56
natural gas	2.73	2.95	3.15	3.49	3.72	3.95
site electricity	6.11	6.65	6.93	7.54	7.91	8.32
total	35.00	34.98	38.14	41.88	44.31	46.83
<i>Mining</i>						
petroleum	3.54	3.27	3.47	3.56	3.64	3.68
natural gas	22.72	23.29	26.22	28.27	30.43	32.12
coal	1.81	1.84	1.91	1.99	2.02	2.05
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	14.75	15.05	14.95	15.26	15.50	15.56
total	42.83	43.45	46.55	49.08	51.60	53.42
<i>Metal Based Durables</i>						
petroleum	0.83	0.89	0.95	1.03	1.08	1.11
natural gas	10.44	11.14	12.38	14.04	15.13	16.15
coal	2.89	3.08	3.48	4.00	4.32	4.66
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	29.34	31.79	34.97	40.00	43.45	47.00
total	43.50	46.90	51.77	59.06	63.98	68.93
<i>Other Manufacturing</i>						
petroleum	3.81	4.71	4.72	4.86	4.93	4.76
natural gas	20.48	20.92	22.03	23.24	24.05	24.39
coal	5.69	6.03	6.53	7.09	7.36	7.53
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	37.59	39.72	41.16	43.94	45.98	47.20
total	67.56	71.38	74.43	79.13	82.32	83.88
<i>Total (including some feedstocks in C emissions)</i>						
petroleum	105.80	108.30	111.50	115.90	117.40	118.50
natural gas	142.20	145.10	150.90	157.30	164.10	169.20
coal	58.50	58.20	59.10	59.70	60.10	60.40
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	175.60	186.10	190.50	201.30	208.80	215.20
total fuel	482.10	497.70	512.00	534.20	550.40	563.30
process emissions	11.16	10.69	11.34	12.02	12.25	12.41
total	493.26	508.39	523.34	546.22	562.65	575.71

Industrial Sector Forecast Summary
CEF-NEMS Moderate Scenario (991213)

<i>demand side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>supply side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
	<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Energy Consumption (Quadrillion Btu)</i>						
Purchased Electricity	3.5	3.6	3.7	3.9	3.9	4.0
Natural Gas	9.9	10.3	10.4	10.7	11.1	11.3
Stream Coal	1.6	1.6	1.5	1.5	1.5	1.5
Metallurgical Coal and Coke	0.8	0.7	0.7	0.7	0.7	0.6
Residual Fuel	0.3	0.3	0.3	0.3	0.2	0.2
Distillate	1.1	1.1	1.2	1.2	1.3	1.3
Liquefied Petroleum Gas	2.1	2.1	2.2	2.3	2.4	2.4
Petrochemical Feedstocks	1.5	1.5	1.4	1.5	1.5	1.5
Other Petroleum	4.3	4.7	4.8	4.9	4.8	4.7
Renewables	1.9	2.0	2.1	2.3	2.4	2.5
Total Site Energy	27.0	27.9	28.4	29.3	29.7	30.0
<i>Electricity Related Losses</i>						
Electricity + Losses	7.8	7.8	7.7	7.9	8.0	8.0
Fossil Fuels	11.3	11.4	11.4	11.8	11.9	11.9
Renewables	21.6	22.3	22.5	23.1	23.4	23.6
Total Primary Energy	34.8	35.7	36.1	37.2	37.7	38.0
<i>Average Heatrate (kWh.primary/kWh.site)</i>	3.21	3.18	3.08	3.05	3.04	3.02
<i>Sub-sector Industry Output (billion 1987\$)</i>						
refining	139	142	148	157	161	165
food	395	413	438	470	498	522
paper	125	131	140	150	157	162
bulk chemicals	152	152	161	172	183	193
glass	20	19	20	20	21	22
cement	5	5	5	5	5	5
iron and steel	69	70	76	78	81	81
aluminum	29	28	29	29	29	29
agriculture	248	259	275	295	311	325
construction	428	453	504	568	611	657
mining	136	136	143	150	157	161
metal durables	1382	1461	1737	2081	2342	2617
other manufacturing	854	883	965	1061	1137	1193
total	3982	4151	4640	5237	5695	6133
<i>Average Efficiency (kBtu/1987\$ output)</i>	8.7	8.6	7.8	7.1	6.6	6.2

Industrial Sector Forecast Summary
CEF-NEMS Moderate Scenario (991213)

<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Mod 0 Mod 1997</i>	<i>Mod 0 Mod 2000</i>	<i>Mod 0 Mod 2005</i>	<i>Mod 0 Mod 2010</i>	<i>Mod 0 Mod 2015</i>	<i>Mod 0 Mod 2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu)</i>						
<i>Refining</i>						
petroleum	2.126	2.418	2.375	2.405	2.226	2.137
natural gas	0.800	0.908	1.071	1.145	1.229	1.224
coal	0.003	0.000	0.000	0.000	0.000	0.000
site electricity	0.110	0.153	0.169	0.187	0.184	0.178
total	3.039	3.479	3.615	3.737	3.639	3.539
<i>Food</i>						
petroleum	0.210	0.238	0.242	0.245	0.251	0.251
natural gas	0.630	0.658	0.650	0.670	0.693	0.710
coal	0.184	0.192	0.197	0.205	0.209	0.213
renewables	0.014	0.015	0.016	0.018	0.019	0.020
site electricity	0.208	0.215	0.215	0.220	0.223	0.224
total	1.246	1.317	1.321	1.358	1.395	1.419
<i>Paper</i>						
petroleum	0.123	0.131	0.114	0.101	0.092	0.084
natural gas	0.677	0.662	0.573	0.520	0.495	0.508
coal	0.395	0.382	0.325	0.283	0.251	0.229
renewables	1.483	1.550	1.662	1.779	1.864	1.924
site electricity	0.259	0.262	0.257	0.255	0.250	0.243
total	2.936	2.987	2.932	2.937	2.952	2.988
<i>Bulk Chemicals (energy)</i>						
petroleum	0.479	0.515	0.459	0.414	0.372	0.312
natural gas	2.204	2.247	2.220	2.306	2.451	2.648
coal	0.176	0.168	0.162	0.159	0.153	0.145
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.639	0.625	0.611	0.612	0.603	0.585
total	3.498	3.555	3.452	3.490	3.579	3.690
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	1.855	1.818	1.903	1.978	2.031	2.075
natural gas	1.461	1.465	1.401	1.455	1.493	1.526
LPG	0.660	0.683	0.681	0.707	0.726	0.742
total	3.976	3.966	3.985	4.140	4.250	4.343
<i>Glass</i>						
petroleum	0.003	0.003	0.003	0.003	0.002	0.002
natural gas	0.156	0.154	0.147	0.144	0.145	0.143
coal	0.000	0.000	0.000	0.000	0.000	0.000
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.031	0.029	0.029	0.029	0.029	0.029
total	0.190	0.187	0.179	0.176	0.176	0.174
<i>Cement</i>						
petroleum	0.036	0.034	0.036	0.034	0.033	0.031
natural gas	0.018	0.019	0.018	0.018	0.017	0.017
coal	0.316	0.312	0.305	0.304	0.295	0.288
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.030	0.029	0.029	0.030	0.029	0.028
total	0.400	0.394	0.388	0.386	0.374	0.364
<i>Iron and Steel</i>						
petroleum	0.118	0.126	0.125	0.116	0.110	0.102
natural gas	0.529	0.516	0.453	0.402	0.367	0.336
coal	0.873	0.820	0.823	0.808	0.803	0.787
site electricity	0.173	0.171	0.171	0.164	0.159	0.150
total	1.693	1.633	1.571	1.490	1.439	1.375

Industrial Sector Forecast Summary
CEF-NEMS Moderate Scenario (991213)

	<i>demand side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>supply side efficiency</i>	<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu) (continued)</i>							
<i>Aluminum</i>							
petroleum		0.000	0.000	0.000	0.000	0.000	0.000
natural gas		0.081	0.081	0.074	0.068	0.064	0.060
site electricity		0.184	0.176	0.168	0.156	0.148	0.139
total		0.265	0.257	0.242	0.224	0.211	0.199
<i>Agriculture</i>							
petroleum		0.782	0.789	0.842	0.875	0.894	0.903
natural gas		0.063	0.068	0.069	0.074	0.078	0.084
coal		0.001	0.000	0.000	0.000	0.000	0.000
renewables		0.023	0.024	0.026	0.028	0.030	0.032
site electricity		0.131	0.136	0.138	0.142	0.143	0.143
total		1.000	1.017	1.075	1.119	1.145	1.162
<i>Construction</i>							
petroleum		1.601	1.626	1.784	1.942	2.031	2.118
natural gas		0.200	0.217	0.225	0.244	0.254	0.262
site electricity		0.122	0.127	0.134	0.144	0.149	0.154
total		1.923	1.970	2.143	2.330	2.434	2.535
<i>Mining</i>							
petroleum		0.217	0.209	0.219	0.221	0.222	0.220
natural gas		1.661	1.717	1.854	1.947	2.019	2.106
coal		0.073	0.072	0.073	0.075	0.075	0.074
renewables		0.001	0.001	0.001	0.001	0.001	0.001
site electricity		0.295	0.288	0.288	0.289	0.289	0.284
total		2.246	2.287	2.435	2.534	2.606	2.686
<i>Metal Based Durables</i>							
petroleum		0.050	0.056	0.058	0.061	0.062	0.062
natural gas		0.759	0.809	0.848	0.921	0.947	0.963
coal		0.116	0.120	0.129	0.142	0.148	0.152
renewables		0.001	0.001	0.001	0.001	0.002	0.002
site electricity		0.588	0.615	0.684	0.775	0.830	0.884
total		1.515	1.601	1.719	1.900	1.988	2.063
<i>Other Manufacturing</i>							
petroleum		0.232	0.299	0.278	0.281	0.274	0.260
natural gas		1.487	1.513	1.532	1.570	1.573	1.535
coal		0.228	0.232	0.242	0.254	0.259	0.259
renewables		0.356	0.370	0.409	0.454	0.490	0.518
site electricity		0.754	0.767	0.808	0.860	0.891	0.904
total		3.056	3.181	3.269	3.419	3.487	3.476
<i>Total</i>							
petroleum		8.491	8.944	9.118	9.383	9.325	9.299
natural gas		10.726	11.033	11.133	11.484	11.824	12.121
coal		2.363	2.298	2.257	2.231	2.192	2.147
renewables		1.878	1.962	2.115	2.282	2.406	2.496
site electricity		3.523	3.593	3.702	3.862	3.927	3.946
total		26.982	27.830	28.325	29.241	29.674	30.010

Industrial Sector Forecast Summary
CEF-NEMS Moderate Scenario (991213)

Electricity as Primary energy

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<i>demand side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>supply side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
	<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu)</i>						
<i>Refining</i>						
petroleum	2.126	2.418	2.375	2.405	2.226	2.137
natural gas	0.800	0.908	1.071	1.145	1.229	1.224
coal	0.003	0.000	0.000	0.000	0.000	0.000
primary electricity	0.352	0.486	0.522	0.571	0.558	0.537
total	3.281	3.813	3.968	4.121	4.013	3.898
<i>Food</i>						
petroleum	0.210	0.238	0.242	0.245	0.251	0.251
natural gas	0.630	0.658	0.650	0.670	0.693	0.710
coal	0.184	0.192	0.197	0.205	0.209	0.213
renewables	0.014	0.015	0.016	0.018	0.019	0.020
primary electricity	0.669	0.685	0.664	0.671	0.678	0.676
total	1.706	1.787	1.769	1.809	1.850	1.871
<i>Paper</i>						
petroleum	0.123	0.131	0.114	0.101	0.092	0.084
natural gas	0.677	0.662	0.573	0.520	0.495	0.508
coal	0.395	0.382	0.325	0.283	0.251	0.229
renewables	1.483	1.550	1.662	1.779	1.864	1.924
primary electricity	0.831	0.833	0.793	0.776	0.761	0.735
total	3.508	3.558	3.467	3.459	3.462	3.479
<i>Bulk Chemicals (energy)</i>						
petroleum	0.479	0.515	0.459	0.414	0.372	0.312
natural gas	2.204	2.247	2.220	2.306	2.451	2.648
coal	0.176	0.168	0.162	0.159	0.153	0.145
renewables	0.000	0.000	0.000	0.000	0.000	0.000
primary electricity	2.051	1.989	1.883	1.864	1.833	1.766
total	4.909	4.919	4.724	4.743	4.809	4.871
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	1.855	1.818	1.903	1.978	2.031	2.075
natural gas	1.461	1.465	1.401	1.455	1.493	1.526
LPG	0.660	0.683	0.681	0.707	0.726	0.742
total	3.976	3.966	3.985	4.140	4.250	4.343
<i>Glass</i>						
petroleum	0.003	0.003	0.003	0.003	0.002	0.002
natural gas	0.156	0.154	0.147	0.144	0.145	0.143
coal	0.000	0.000	0.000	0.000	0.000	0.000
renewables	0.000	0.000	0.000	0.000	0.000	0.000
primary electricity	0.098	0.094	0.089	0.088	0.088	0.087
total	0.257	0.251	0.239	0.235	0.235	0.232
<i>Cement</i>						
petroleum	0.036	0.034	0.036	0.034	0.033	0.031
natural gas	0.018	0.019	0.018	0.018	0.017	0.017
coal	0.316	0.312	0.305	0.304	0.295	0.288
renewables	0.000	0.000	0.000	0.000	0.000	0.000
primary electricity	0.096	0.091	0.090	0.090	0.088	0.086
total	0.467	0.457	0.449	0.447	0.434	0.421
<i>Iron and Steel</i>						
petroleum	0.118	0.126	0.125	0.116	0.110	0.102
natural gas	0.529	0.516	0.453	0.402	0.367	0.336
coal	0.873	0.820	0.823	0.808	0.803	0.787
primary electricity	0.557	0.545	0.527	0.499	0.482	0.453
total	2.076	2.006	1.928	1.825	1.762	1.678

Industrial Sector Forecast Summary
CEF-NEMS Moderate Scenario (991213)

Electricity as Primary energy

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	<i>demand side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>supply side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu) (continued)</i>							
<i>Aluminum</i>							
petroleum		0.000	0.000	0.000	0.000	0.000	0.000
natural gas		0.081	0.081	0.074	0.068	0.064	0.060
primary electricity		0.590	0.560	0.518	0.475	0.448	0.419
total		0.671	0.641	0.592	0.543	0.512	0.479
<i>Agriculture</i>							
petroleum		0.782	0.789	0.842	0.875	0.894	0.903
natural gas		0.063	0.068	0.069	0.074	0.078	0.084
coal		0.001	0.000	0.000	0.000	0.000	0.000
renewables		0.023	0.024	0.026	0.028	0.030	0.032
primary electricity		0.421	0.431	0.426	0.431	0.435	0.433
total		1.290	1.312	1.363	1.409	1.437	1.451
<i>Construction</i>							
petroleum		1.601	1.626	1.784	1.942	2.031	2.118
natural gas		0.200	0.217	0.225	0.244	0.254	0.262
primary electricity		0.392	0.405	0.414	0.439	0.453	0.465
total		2.193	2.248	2.423	2.625	2.738	2.845
<i>Mining</i>							
petroleum		0.217	0.209	0.219	0.221	0.222	0.220
natural gas		1.661	1.717	1.854	1.947	2.019	2.106
coal		0.073	0.072	0.073	0.075	0.075	0.074
renewables		0.001	0.001	0.001	0.001	0.001	0.001
primary electricity		0.946	0.917	0.889	0.882	0.877	0.856
total		2.897	2.916	3.036	3.126	3.194	3.258
<i>Metal Based Durables</i>							
petroleum		0.050	0.056	0.058	0.061	0.062	0.062
natural gas		0.759	0.809	0.848	0.921	0.947	0.963
coal		0.116	0.120	0.129	0.142	0.148	0.152
renewables		0.001	0.001	0.001	0.001	0.002	0.002
primary electricity		1.889	1.955	2.108	2.360	2.521	2.669
total		2.815	2.942	3.143	3.486	3.679	3.847
<i>Other Manufacturing</i>							
petroleum		0.232	0.299	0.278	0.281	0.274	0.260
natural gas		1.487	1.513	1.532	1.570	1.573	1.535
coal		0.228	0.232	0.242	0.254	0.259	0.259
renewables		0.356	0.370	0.409	0.454	0.490	0.518
primary electricity		2.419	2.439	2.493	2.619	2.708	2.729
total		4.721	4.853	4.953	5.179	5.304	5.300
<i>Total</i>							
petroleum		8.491	8.944	9.118	9.383	9.325	9.299
natural gas		10.726	11.033	11.133	11.484	11.824	12.121
coal		2.363	2.298	2.257	2.231	2.192	2.147
renewables		1.878	1.962	2.115	2.282	2.406	2.496
primary electricity		11.310	11.430	11.416	11.766	11.930	11.909
total		34.8	35.7	36.0	37.1	37.7	38.0

Industrial Sector Forecast Summary (MtC)
CEF-NEMS Moderate Scenario (991213)

<i>demand side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>supply side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
	1997	2000	2005	2010	2015	2020
<i>Sub-sector carbon emissions (MtC)</i>						
<i>Refining</i>						
petroleum	34.71	37.71	36.21	36.30	33.02	31.30
natural gas	10.94	12.26	14.62	15.61	16.77	16.70
coal	0.08	0.00	0.00	0.00	0.00	0.00
site electricity	5.46	7.85	8.27	9.08	8.91	8.67
total	51.19	57.82	59.10	61.00	58.69	56.67
<i>Food</i>						
petroleum	3.42	3.71	3.70	3.69	3.72	3.68
natural gas	8.62	8.87	8.87	9.14	9.46	9.69
coal	4.55	4.86	4.99	5.20	5.30	5.41
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	10.38	11.05	10.51	10.68	10.83	10.92
total	26.97	28.49	28.07	28.71	29.30	29.69
<i>Paper</i>						
petroleum	2.00	2.04	1.74	1.52	1.36	1.22
natural gas	9.26	8.93	7.82	7.09	6.75	6.93
coal	9.78	9.70	8.25	7.16	6.37	5.80
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	12.90	13.44	12.54	12.35	12.15	11.86
total	33.94	34.11	30.36	28.12	26.63	25.81
<i>Bulk Chemicals (energy)</i>						
petroleum	7.82	8.03	7.00	6.24	5.52	4.57
natural gas	30.15	30.32	30.31	31.44	33.44	36.13
coal	4.35	4.27	4.11	4.03	3.87	3.67
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	31.84	32.10	29.80	29.66	29.29	28.52
total	74.16	74.72	71.22	71.37	72.11	72.89
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	6.06	5.67	5.80	5.97	6.02	6.08
natural gas	15.47	15.30	14.81	15.36	15.76	16.12
LPG	2.15	2.13	2.08	2.13	2.15	2.17
total	23.68	23.10	22.69	23.46	23.94	24.37
<i>Glass</i>						
petroleum	0.04	0.05	0.04	0.04	0.04	0.03
natural gas	2.14	2.08	2.00	1.97	1.97	1.96
coal	0.00	0.00	0.00	0.00	0.00	0.00
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	1.53	1.51	1.42	1.40	1.40	1.40
total	3.71	3.64	3.46	3.41	3.41	3.39
<i>Cement</i>						
petroleum	0.59	0.53	0.54	0.52	0.48	0.45
natural gas	0.25	0.25	0.25	0.24	0.24	0.23
coal	7.83	7.92	7.74	7.70	7.49	7.29
renewables	0.00	0.00	0.00	0.00	0.00	0.00
site electricity	1.50	1.47	1.42	1.44	1.41	1.38
total fuel	10.16	10.19	9.95	9.90	9.62	9.36
process emissions	11.16	10.69	11.23	11.32	10.97	10.56
total	21.32	20.88	21.18	21.22	20.59	19.92
<i>Iron and Steel</i>						
petroleum	1.93	1.96	1.90	1.76	1.64	1.49
natural gas	7.23	6.96	6.18	5.48	5.00	4.58
coal	21.60	20.79	20.86	20.46	20.36	19.95
site electricity	8.64	8.80	8.35	7.94	7.70	7.31
total	39.41	38.51	37.29	35.64	34.70	33.33

Industrial Sector Forecast Summary (MtC)
CEF-NEMS Moderate Scenario (991213)

	<i>demand side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	<i>supply side efficiency</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>	<i>Mod</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector carbon emissions (MtC)</i>							
<i>Aluminum</i>							
petroleum		0.00	0.00	0.00	0.00	0.00	0.00
natural gas		1.11	1.09	1.00	0.93	0.87	0.81
site electricity		9.16	9.04	8.21	7.56	7.16	6.77
total		10.27	10.13	9.21	8.49	8.03	7.59
<i>Agriculture</i>							
petroleum		12.77	12.30	12.83	13.21	13.25	13.23
natural gas		0.87	0.91	0.95	1.01	1.07	1.14
coal		0.01	0.01	0.01	0.01	0.01	0.01
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		6.54	6.96	6.74	6.86	6.95	6.99
total		20.19	20.19	20.52	21.09	21.28	21.36
<i>Construction</i>							
petroleum		26.14	25.36	27.20	29.31	30.12	31.02
natural gas		2.73	2.92	3.07	3.32	3.46	3.58
site electricity		6.08	6.54	6.56	6.98	7.24	7.51
total		34.96	34.83	36.82	39.62	40.83	42.11
<i>Mining</i>							
petroleum		3.54	3.26	3.34	3.34	3.30	3.23
natural gas		22.72	23.17	25.31	26.55	27.54	28.74
coal		1.80	1.82	1.85	1.89	1.89	1.88
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		14.68	14.81	14.08	14.03	14.01	13.81
total		42.74	43.06	44.58	45.81	46.74	47.66
<i>Metal Based Durables</i>							
petroleum		0.82	0.88	0.88	0.93	0.93	0.91
natural gas		10.38	10.92	11.58	12.55	12.92	13.14
coal		2.87	3.04	3.27	3.60	3.75	3.85
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		29.33	31.56	33.36	37.55	40.27	43.09
total		43.40	46.39	49.09	54.63	57.86	60.99
<i>Other Manufacturing</i>							
petroleum		3.78	4.66	4.24	4.24	4.06	3.81
natural gas		20.34	20.41	20.92	21.41	21.46	20.95
coal		5.64	5.89	6.12	6.44	6.56	6.55
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		37.56	39.37	39.46	41.67	43.26	44.06
total		67.32	70.33	70.74	73.76	75.34	75.37
<i>Total (including some feedstocks in C emissions)</i>							
petroleum		105.80	108.30	107.50	109.20	105.60	103.20
natural gas		142.20	144.40	147.70	152.10	156.70	160.70
coal		58.50	58.30	57.20	56.50	55.60	54.40
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		175.60	184.50	180.70	187.20	190.60	192.30
total fuel		482.10	495.50	493.10	505.00	508.50	510.60
process emissions		11.16	10.69	11.23	11.32	10.97	10.56
total		493.26	506.19	504.33	516.32	519.47	521.16

Industrial Sector Forecast Summary
CEF_NEMS Advanced Scenario (991213)

	<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>
	<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>
		<i>2020</i>				
<i>Energy Consumption (Quadrillion Btu)</i>						
Purchased Electricity		3.5	3.6	3.6	3.6	3.6
Natural Gas		9.9	10.2	10.2	10.1	10.3
Stream Coal		1.6	1.6	1.3	1.3	1.3
Metallurgical Coal and Coke		0.8	0.7	0.6	0.5	0.5
Residual Fuel		0.3	0.3	0.2	0.2	0.2
Distillate		1.1	1.1	1.2	1.2	1.2
Liquefied Petroleum Gas		2.1	2.1	2.2	2.3	2.3
Petrochemical Feedstocks		1.5	1.5	1.4	1.4	1.5
Other Petroleum		4.3	4.7	4.6	4.6	4.3
Renewables		1.9	2.0	2.2	2.4	2.6
Total Site Energy		27.0	27.9	27.5	27.6	27.7
<i>Electricity Related Losses</i>						
Electricity + Losses		7.8	7.7	7.0	7.0	6.9
Fossil Fuels		11.3	11.3	10.5	10.6	10.5
Renewables		21.6	22.3	21.7	21.6	21.5
Total Primary Energy		34.8	35.6	34.4	34.7	34.6
<i>Average Heatrate (kWh.primary/kWh.site)</i>		3.21	3.14	2.95	2.96	2.93
<i>Sub-sector Industry Output (billion 1987\$)</i>						
refining		139	142	148	157	161
food		395	413	438	470	498
paper		125	131	140	150	157
bulk chemicals		152	152	161	172	183
glass		20	19	20	20	21
cement		5	5	5	5	5
iron and steel		69	70	76	78	81
aluminum		29	28	29	29	29
agriculture		248	259	275	295	311
construction		428	453	504	568	611
mining		136	136	143	150	157
metal durables		1382	1461	1737	2081	2342
other manufacturing		854	883	965	1061	1137
total		3982	4151	4640	5237	5695
<i>Average Efficiency (kBtu/1987\$ output)</i>		8.7	8.6	7.4	6.6	6.1

Industrial Sector Forecast Summary
CEF_NEMS Advanced Scenario (991213)

<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu)</i>						
<i>Refining</i>						
petroleum	2.126	2.423	2.335	2.247	1.966	1.799
natural gas	0.800	0.892	1.075	1.055	1.027	1.014
coal	0.003	0.000	0.000	0.000	0.000	0.000
site electricity	0.110	0.153	0.165	0.162	0.139	0.126
total	3.039	3.468	3.575	3.464	3.132	2.939
<i>Food</i>						
petroleum	0.210	0.240	0.237	0.236	0.240	0.242
natural gas	0.630	0.654	0.638	0.661	0.691	0.718
coal	0.184	0.190	0.145	0.150	0.151	0.155
renewables	0.014	0.015	0.017	0.019	0.021	0.022
site electricity	0.208	0.215	0.204	0.203	0.206	0.206
total	1.246	1.314	1.240	1.269	1.308	1.343
<i>Paper</i>						
petroleum	0.123	0.130	0.098	0.075	0.070	0.068
natural gas	0.677	0.655	0.472	0.364	0.389	0.429
coal	0.395	0.377	0.201	0.123	0.112	0.107
renewables	1.483	1.550	1.721	1.935	2.082	2.186
site electricity	0.259	0.263	0.241	0.224	0.213	0.201
total	2.936	2.976	2.733	2.721	2.867	2.990
<i>Bulk Chemicals (energy)</i>						
petroleum	0.479	0.512	0.415	0.331	0.279	0.206
natural gas	2.204	2.240	2.141	2.197	2.383	2.611
coal	0.176	0.167	0.111	0.099	0.091	0.080
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.639	0.625	0.561	0.537	0.517	0.478
total	3.498	3.544	3.227	3.164	3.270	3.375
<i>Bulk Chemicals (feedstocks)</i>						
petrochemicals	1.855	1.818	1.893	1.949	1.980	2.001
natural gas	1.461	1.465	1.394	1.434	1.456	1.471
LPG	0.660	0.682	0.677	0.697	0.708	0.715
total	3.976	3.965	3.964	4.080	4.144	4.187
<i>Glass</i>						
petroleum	0.003	0.003	0.002	0.002	0.002	0.002
natural gas	0.156	0.153	0.132	0.122	0.123	0.124
coal	0.000	0.000	0.000	0.000	0.000	0.000
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.031	0.029	0.028	0.027	0.027	0.026
total	0.190	0.186	0.162	0.151	0.151	0.152
<i>Cement</i>						
petroleum	0.036	0.035	0.041	0.039	0.036	0.034
natural gas	0.018	0.019	0.032	0.032	0.031	0.030
coal	0.316	0.310	0.252	0.244	0.230	0.216
renewables	0.000	0.000	0.000	0.000	0.000	0.000
site electricity	0.030	0.029	0.031	0.030	0.029	0.028
total	0.401	0.393	0.356	0.344	0.325	0.308
<i>Iron and Steel</i>						
petroleum	0.118	0.116	0.060	0.036	0.021	0.020
natural gas	0.529	0.508	0.442	0.376	0.355	0.336
coal	0.873	0.903	0.784	0.764	0.758	0.758
site electricity	0.173	0.170	0.159	0.148	0.146	0.140
total	1.693	1.697	1.445	1.323	1.280	1.254

Industrial Sector Forecast Summary
CEF_NEMS Advanced Scenario (991213)

	<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
	<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu) (continued)</i>							
<i>Aluminum</i>							
petroleum		0.000	0.000	0.000	0.000	0.000	0.000
natural gas		0.081	0.081	0.071	0.065	0.062	0.058
site electricity		0.184	0.176	0.157	0.139	0.134	0.129
total		0.265	0.256	0.228	0.204	0.196	0.187
<i>Agriculture</i>							
petroleum		0.782	0.787	0.831	0.844	0.839	0.829
natural gas		0.063	0.068	0.068	0.071	0.073	0.078
coal		0.001	0.000	0.000	0.000	0.000	0.000
renewables		0.023	0.024	0.027	0.031	0.033	0.036
site electricity		0.131	0.135	0.136	0.136	0.134	0.131
total		1.000	1.015	1.061	1.081	1.080	1.073
<i>Construction</i>							
petroleum		1.601	1.625	1.775	1.916	1.985	2.055
natural gas		0.200	0.217	0.221	0.238	0.244	0.249
site electricity		0.122	0.127	0.133	0.141	0.144	0.146
total		1.923	1.969	2.130	2.295	2.373	2.451
<i>Mining</i>							
petroleum		0.217	0.208	0.215	0.213	0.209	0.204
natural gas		1.661	1.723	1.892	1.930	1.992	2.094
coal		0.073	0.071	0.070	0.071	0.068	0.066
renewables		0.001	0.001	0.001	0.001	0.001	0.001
site electricity		0.295	0.288	0.284	0.279	0.272	0.261
total		2.246	2.292	2.463	2.493	2.542	2.626
<i>Metal Based Durables</i>							
petroleum		0.050	0.057	0.059	0.059	0.057	0.055
natural gas		0.759	0.808	0.826	0.865	0.856	0.837
coal		0.116	0.119	0.104	0.111	0.109	0.107
renewables		0.001	0.001	0.001	0.001	0.002	0.002
site electricity		0.588	0.615	0.665	0.739	0.778	0.815
total		1.515	1.598	1.655	1.775	1.802	1.816
<i>Other Manufacturing</i>							
petroleum		0.232	0.303	0.292	0.274	0.259	0.235
natural gas		1.487	1.505	1.481	1.470	1.408	1.323
coal		0.228	0.230	0.200	0.201	0.190	0.178
renewables		0.356	0.370	0.407	0.450	0.483	0.507
site electricity		0.754	0.767	0.794	0.828	0.846	0.844
total		3.056	3.175	3.173	3.223	3.185	3.087
<i>Total</i>							
petroleum		8.491	8.940	8.930	8.916	8.652	8.465
natural gas		10.726	10.987	10.884	10.879	11.089	11.370
coal		2.363	2.367	1.868	1.762	1.709	1.667
renewables		1.878	1.962	2.174	2.437	2.621	2.754
site electricity		3.523	3.591	3.556	3.592	3.583	3.530
total		26.982	27.847	27.412	27.586	27.655	27.786

Industrial Sector Forecast Summary
CEF_NEMS Advanced Scenario (991213)

Electricity as Primary energy

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	<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
	<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu)</i>							
<i>Refining</i>							
petroleum		2.126	2.423	2.335	2.247	1.966	1.799
natural gas		0.800	0.892	1.075	1.055	1.027	1.014
coal		0.003	0.000	0.000	0.000	0.000	0.000
primary electricity		0.352	0.479	0.488	0.481	0.406	0.356
total		3.281	3.794	3.898	3.783	3.399	3.169
<i>Food</i>							
petroleum		0.210	0.240	0.237	0.236	0.240	0.242
natural gas		0.630	0.654	0.638	0.661	0.691	0.718
coal		0.184	0.190	0.145	0.150	0.151	0.155
renewables		0.014	0.015	0.017	0.019	0.021	0.022
primary electricity		0.668	0.676	0.601	0.602	0.602	0.584
total		1.706	1.775	1.637	1.667	1.704	1.721
<i>Paper</i>							
petroleum		0.123	0.130	0.098	0.075	0.070	0.068
natural gas		0.677	0.655	0.472	0.364	0.389	0.429
coal		0.395	0.377	0.201	0.123	0.112	0.107
renewables		1.483	1.550	1.721	1.935	2.082	2.186
primary electricity		0.831	0.827	0.710	0.663	0.624	0.569
total		3.508	3.540	3.203	3.160	3.278	3.359
<i>Bulk Chemicals (energy)</i>							
petroleum		0.479	0.512	0.415	0.331	0.279	0.206
natural gas		2.204	2.240	2.141	2.197	2.383	2.611
coal		0.176	0.167	0.111	0.099	0.091	0.080
renewables		0.000	0.000	0.000	0.000	0.000	0.000
primary electricity		2.051	1.965	1.655	1.591	1.513	1.356
total		4.909	4.884	4.322	4.218	4.266	4.253
<i>Bulk Chemicals (feedstocks)</i>							
petrochemicals		1.855	1.818	1.893	1.949	1.980	2.001
natural gas		1.461	1.465	1.394	1.434	1.456	1.471
LPG		0.660	0.682	0.677	0.697	0.708	0.715
total		3.976	3.965	3.964	4.080	4.144	4.187
<i>Glass</i>							
petroleum		0.003	0.003	0.002	0.002	0.002	0.002
natural gas		0.156	0.153	0.132	0.122	0.123	0.124
coal		0.000	0.000	0.000	0.000	0.000	0.000
renewables		0.000	0.000	0.000	0.000	0.000	0.000
primary electricity		0.098	0.092	0.081	0.079	0.078	0.075
total		0.257	0.249	0.215	0.203	0.202	0.200
<i>Cement</i>							
petroleum		0.036	0.035	0.041	0.039	0.036	0.034
natural gas		0.018	0.019	0.032	0.032	0.031	0.030
coal		0.316	0.310	0.252	0.244	0.230	0.216
renewables		0.000	0.000	0.000	0.000	0.000	0.000
primary electricity		0.096	0.090	0.091	0.089	0.085	0.078
total		0.467	0.454	0.416	0.403	0.381	0.358
<i>Iron and Steel</i>							
petroleum		0.118	0.116	0.060	0.036	0.021	0.020
natural gas		0.529	0.508	0.442	0.376	0.355	0.336
coal		0.873	0.903	0.784	0.764	0.758	0.758
primary electricity		0.557	0.533	0.470	0.437	0.427	0.397
total		2.076	2.060	1.756	1.613	1.561	1.511

Industrial Sector Forecast Summary
CEF_NEMS Advanced Scenario (991213)

Electricity as Primary energy

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	<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>
	<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>
<i>Sub-sector Energy Consumption (Quadrillion Btu) (continued)</i>						
<i>Aluminum</i>						
petroleum		0.000	0.000	0.000	0.000	0.000
natural gas		0.081	0.081	0.071	0.065	0.062
primary electricity		0.590	0.551	0.465	0.411	0.393
total		0.671	0.632	0.536	0.476	0.455
<i>Agriculture</i>						
petroleum		0.782	0.787	0.831	0.844	0.839
natural gas		0.063	0.068	0.068	0.071	0.073
coal		0.001	0.000	0.000	0.000	0.000
renewables		0.023	0.024	0.027	0.031	0.033
primary electricity		0.421	0.425	0.401	0.402	0.392
total		1.290	1.304	1.326	1.347	1.338
<i>Construction</i>						
petroleum		1.601	1.625	1.775	1.916	1.985
natural gas		0.200	0.217	0.221	0.238	0.244
primary electricity		0.392	0.400	0.393	0.417	0.421
total		2.192	2.242	2.390	2.571	2.650
<i>Mining</i>						
petroleum		0.217	0.208	0.215	0.213	0.209
natural gas		1.661	1.723	1.892	1.930	1.992
coal		0.073	0.071	0.070	0.071	0.068
renewables		0.001	0.001	0.001	0.001	0.001
primary electricity		0.946	0.905	0.838	0.825	0.795
total		2.897	2.909	3.017	3.039	3.066
<i>Metal Based Durables</i>						
petroleum		0.050	0.057	0.059	0.059	0.057
natural gas		0.759	0.808	0.826	0.865	0.856
coal		0.116	0.119	0.104	0.111	0.109
renewables		0.001	0.001	0.001	0.001	0.002
primary electricity		1.889	1.931	1.964	2.187	2.279
total		2.815	2.915	2.954	3.223	3.303
<i>Other Manufacturing</i>						
petroleum		0.232	0.303	0.292	0.274	0.259
natural gas		1.487	1.505	1.481	1.470	1.408
coal		0.228	0.230	0.200	0.201	0.190
renewables		0.356	0.370	0.407	0.450	0.483
primary electricity		2.419	2.409	2.343	2.452	2.475
total		4.721	4.817	4.722	4.847	4.815
<i>Total</i>						
petroleum		8.491	8.940	8.930	8.916	8.652
natural gas		10.726	10.987	10.884	10.879	11.089
coal		2.363	2.367	1.868	1.762	1.709
renewables		1.878	1.962	2.174	2.437	2.621
primary electricity		11.309	11.284	10.499	10.635	10.488
total		34.8	35.5	34.4	34.6	34.3

Industrial Sector Forecast Summary (MtC)
CEF_NEMS Advanced Scenario (991213)

	<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
	<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
<i>Sub-sector carbon emissions (MtC)</i>							
<i>Refining</i>							
petroleum		34.71	37.74	35.29	33.18	28.66	25.53
natural gas		10.94	12.06	14.66	14.35	13.96	13.83
coal		0.08	0.00	0.00	0.00	0.00	0.00
site electricity		5.46	7.67	6.90	6.35	5.16	4.15
total		51.19	57.48	56.85	53.88	47.78	43.51
<i>Food</i>							
petroleum		3.42	3.74	3.58	3.48	3.50	3.43
natural gas		8.62	8.84	8.70	8.99	9.39	9.79
coal		4.55	4.82	3.67	3.80	3.83	3.93
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		10.38	10.81	8.49	7.95	7.65	6.80
total		26.97	28.21	24.44	24.22	24.37	23.96
<i>Paper</i>							
petroleum		2.00	2.03	1.48	1.11	1.02	0.97
natural gas		9.26	8.86	6.44	4.95	5.29	5.84
coal		9.78	9.54	5.09	3.12	2.84	2.71
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		12.90	13.24	10.04	8.76	7.94	6.63
total		33.94	33.68	23.05	17.93	17.09	16.15
<i>Bulk Chemicals (energy)</i>							
petroleum		7.82	7.97	6.27	4.88	4.07	2.92
natural gas		30.15	30.29	29.19	29.89	32.40	35.60
coal		4.35	4.24	2.81	2.52	2.32	2.03
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		31.84	31.45	23.39	21.01	19.22	15.80
total		74.16	73.95	61.66	58.31	58.01	56.34
<i>Bulk Chemicals (feedstocks)</i>							
petrochemicals		6.06	5.66	5.72	5.76	5.77	5.68
natural gas		15.47	15.33	14.71	15.10	15.32	15.52
LPG		2.15	2.13	2.05	2.06	2.06	2.03
total		23.68	23.12	22.48	22.91	23.16	23.23
<i>Glass</i>							
petroleum		0.04	0.05	0.03	0.03	0.03	0.02
natural gas		2.14	2.07	1.80	1.66	1.67	1.69
coal		0.00	0.00	0.00	0.00	0.00	0.00
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		1.53	1.47	1.15	1.04	0.99	0.87
total		3.71	3.60	2.98	2.73	2.68	2.58
<i>Cement</i>							
petroleum		0.59	0.55	0.62	0.57	0.52	0.49
natural gas		0.25	0.26	0.44	0.43	0.42	0.41
coal		7.83	7.85	6.39	6.19	5.81	5.49
renewables		0.00	0.00	0.00	0.00	0.00	0.00
site electricity		1.50	1.44	1.28	1.18	1.08	0.91
total fuel		10.16	10.10	8.73	8.37	7.83	7.29
process emissions		11.16	10.69	11.23	11.32	10.97	10.56
total		21.32	20.79	19.96	19.69	18.80	17.85
<i>Iron and Steel</i>							
petroleum		1.93	1.81	0.91	0.53	0.31	0.29
natural gas		7.23	6.86	6.02	5.12	4.82	4.57
coal		21.60	22.89	19.86	19.37	19.20	19.24
site electricity		8.64	8.53	6.64	5.78	5.42	4.62
total		39.41	40.10	33.43	30.79	29.76	28.72

Industrial Sector Forecast Summary (MtC)
CEF_NEMS Advanced Scenario (991213)

	<i>demand side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	<i>carbon charge (\$/t)</i>	<i>0</i>	<i>0</i>	<i>50</i>	<i>50</i>	<i>50</i>
	<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
		<i>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>
		<i>2020</i>				
<i>Sub-sector carbon emissions (MtC)</i>						
<i>Aluminum</i>						
petroleum		0.00	0.00	0.00	0.00	0.00
natural gas		1.11	1.09	0.97	0.88	0.84
site electricity		9.16	8.83	6.57	5.43	4.99
total		10.27	9.92	7.53	6.32	5.83
<i>Agriculture</i>						
petroleum		12.77	12.26	12.55	12.46	12.24
natural gas		0.87	0.92	0.92	0.96	1.00
coal		0.01	0.01	0.01	0.01	0.01
renewables		0.00	0.00	0.00	0.00	0.00
site electricity		6.54	6.80	5.66	5.31	4.98
total		20.19	19.99	19.15	18.74	18.22
<i>Construction</i>						
petroleum		26.14	25.31	26.83	28.29	28.94
natural gas		2.73	2.93	3.02	3.23	3.32
site electricity		6.08	6.41	5.56	5.51	5.35
total		34.96	34.65	35.40	37.03	37.61
<i>Mining</i>						
petroleum		3.54	3.25	3.26	3.15	3.05
natural gas		22.72	23.30	25.79	26.26	27.08
coal		1.80	1.80	1.78	1.79	1.73
renewables		0.00	0.00	0.00	0.00	0.00
site electricity		14.68	14.48	11.85	10.89	10.11
total		42.74	42.83	42.68	42.09	41.97
<i>Metal Based Durables</i>						
petroleum		0.82	0.88	0.89	0.87	0.83
natural gas		10.38	10.92	11.26	11.77	11.64
coal		2.87	3.01	2.63	2.81	2.77
renewables		0.00	0.00	0.00	0.00	0.00
site electricity		29.33	30.91	27.76	28.89	28.96
total		43.40	45.72	42.54	44.34	44.20
<i>Other Manufacturing</i>						
petroleum		3.78	4.72	4.42	4.05	3.78
natural gas		20.34	20.35	20.19	20.00	19.14
coal		5.64	5.83	5.05	5.09	4.80
renewables		0.00	0.00	0.00	0.00	0.00
site electricity		37.56	38.55	33.12	32.40	31.46
total		67.32	69.46	62.78	61.54	59.19
<i>Total (including some feedstocks in C emissions)</i>						
petroleum		105.80	108.10	103.90	100.40	94.80
natural gas		142.20	144.10	144.10	143.60	146.30
coal		58.50	60.00	47.30	44.70	43.30
renewables		0.00	0.00	0.00	0.00	0.00
site electricity		175.60	180.60	148.40	140.50	133.30
total fuel		482.10	492.80	443.70	429.20	417.70
process emissions		11.16	10.69	11.23	11.32	10.97
total		493.26	503.49	454.93	440.52	428.67