

APPENDIX D
DETAILED RESULTS

APPENDIX D-3
TRANSPORTATION

Transportation 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>Level of Travel by Mode (Billion)</i>							
Light Duty Vehicles (vehicle miles traveled)		2301	2388	2634	2887	3098	3303
Commercial Light Trucks (vehicle miles traveled)		69	74	82	90	97	104
Freight Trucks (vehicle miles traveled)		177	200	222	243	258	270
Air (seat miles demanded)		1049	1216	1479	1813	2127	2462
Rail (ton miles traveled)		1231	1313	1409	1517	1614	1694
Marine (ton miles traveled)		756	777	822	876	924	961
<i>Energy Efficiency Indicator by Mode</i>							
New Vehicle (MPG)		24	23.5	24.3	25.5	26.1	26.5
New Car (MPG)		27.9	28.3	30.1	31.7	32.1	32.1
New Light Truck (MPG)		20.2	19.4	19.9	20.8	21.5	22
Light-Duty Fleet (MPG)		20.5	20.3	20.1	20.3	20.9	21.4
New Commercial Light Truck (MPG)		19.9	18.7	19.1	19.8	20.5	21
Stock Commercial Light Truck (MPG)		14.6	14.7	14.8	15	15.2	15.6
Aircraft (seat miles/gallon)		51	52.1	53.9	55.7	57.6	59.6
Freight Truck (MPG)		5.6	5.7	5.9	6.1	6.2	6.3
Rail (ton miles/kBtu)		2.7	2.8	2.8	2.9	3	3.1
<i>Site Energy Use by Mode (Quadrillion Btu)</i>							
Light-Duty Vehicles		13.9	15.0	16.7	18.1	18.9	19.6
Commercial Light Trucks		0.6	0.6	0.7	0.8	0.8	0.8
Freight Trucks		4.2	4.7	5.0	5.3	5.5	5.7
Air		3.4	3.8	4.4	5.2	5.8	6.4
Rail		0.5	0.6	0.6	0.6	0.6	0.7
Marine		1.3	1.3	1.5	1.6	1.8	2.0
Pipeline Fuel		0.7	0.7	0.8	0.9	0.9	1.0
Other		0.2	0.3	0.3	0.3	0.3	0.3
Total		24.9	27.0	30.0	32.8	34.6	36.4
<i>Energy Use by Fuel Type (Quadrillion Btu)</i>							
Distillate Fuel		4.6	5.1	5.6	6.0	6.3	6.6
Jet Fuel		3.3	3.8	4.4	5.1	5.7	6.3
Motor Gasoline		15.1	16.1	17.5	18.7	19.3	19.9
Residual Fuel		0.8	0.7	0.9	1.0	1.2	1.3
Liquefied Petroleum Gas		0.0	0.1	0.1	0.2	0.2	0.2
Other Petroleum		0.3	0.3	0.3	0.3	0.4	0.4
Petroleum Subtotal		24.10	26.12	28.77	31.32	33.02	34.67
Pipeline Fuel Natural Gas		0.7	0.7	0.8	0.9	0.9	1.0
Compressed Natural Gas		0.0	0.1	0.2	0.3	0.3	0.4
Renewables (E85)		0.0	0.0	0.0	0.1	0.1	0.1
Methanol		0.0	0.0	0.1	0.1	0.1	0.1
Liquid Hydrogen		0.0	0.0	0.0	0.0	0.0	0.0
Electricity		0.1	0.1	0.1	0.2	0.2	0.2
Total Site Energy		24.9	27.0	30.0	32.8	34.6	36.4
Electricity Related Losses		0.1	0.1	0.2	0.3	0.4	0.4
Total Primary Energy		25.0	27.1	30.2	33.1	35.0	36.8

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

	<i>demand side efficiency carbon charge (\$/t) supply side efficiency</i>	<i>Base 0 1997</i>	<i>Base 0 2000</i>	<i>Base 0 2005</i>	<i>Base 0 2010</i>	<i>Base 0 2015</i>	<i>Base 0 2020</i>
<i>Site Energy Use By Mode and Fuel Type (Quadrillion Btu)</i>							
<i>Light-Duty Vehicle</i>							
Motor Gasoline		13.902	14.895	16.311	17.442	18.013	18.603
Methanol		0.001	0.018	0.051	0.076	0.095	0.109
Ethanol		0.001	0.010	0.030	0.051	0.065	0.074
Compressed Natural Gas		0.012	0.058	0.173	0.235	0.270	0.295
Liquid Petroleum Gas		0.021	0.039	0.105	0.155	0.181	0.200
Electricity		0.000	0.002	0.040	0.083	0.116	0.147
Liquid Hydrogen		0.000	0.000	0.000	0.000	0.000	0.000
Distillate (diesel)		0.007	0.007	0.012	0.047	0.111	0.170
Total		13.944	15.029	16.722	18.088	18.852	19.598
<i>Commercial Light Trucks</i>							
Motor Gasoline		0.592	0.628	0.690	0.756	0.800	0.838
Total		0.592	0.628	0.690	0.756	0.800	0.838
<i>Freight Trucks</i>							
Motor Gasoline		0.330	0.285	0.213	0.170	0.141	0.122
Distillate (diesel)		3.636	4.106	4.517	4.834	5.050	5.228
Compressed Natural Gas		0.002	0.003	0.008	0.024	0.040	0.050
Liquid Petroleum Gas		0.020	0.019	0.019	0.021	0.023	0.024
Total		3.988	4.413	4.756	5.050	5.254	5.424
<i>Freight Rail</i>							
Distillate (diesel)		0.451	0.474	0.496	0.521	0.540	0.553
Total		0.451	0.474	0.496	0.521	0.540	0.553
<i>Domestic Shipping</i>							
Distillate (diesel)		0.218	0.221	0.228	0.237	0.244	0.247
Residual Oil		0.092	0.093	0.096	0.100	0.102	0.104
Motor Gasoline		0.000	0.000	0.000	0.000	0.000	0.000
Total		0.310	0.314	0.324	0.337	0.346	0.351
<i>International Shipping</i>							
Distillate (diesel)		0.066	0.073	0.087	0.104	0.120	0.136
Residual Oil		0.649	0.643	0.766	0.914	1.049	1.191
Total		0.715	0.717	0.853	1.018	1.169	1.327
<i>Air Transportation</i>							
Jet Fuel		2.744	3.274	3.853	4.573	5.182	5.798
Aviation Gasoline		0.043	0.043	0.042	0.042	0.042	0.042
Total		2.787	3.317	3.895	4.615	5.224	5.840
<i>Military Use</i>							
Jet Fuel		0.564	0.519	0.516	0.550	0.549	0.539
Residual Fuel		0.007	0.007	0.007	0.007	0.007	0.007
Distillate		0.060	0.057	0.057	0.061	0.061	0.060
Total		0.631	0.584	0.579	0.618	0.617	0.605
<i>Bus Transportation</i>							
Transit Bus (motor gasoline)		0.004	0.004	0.004	0.004	0.004	0.004
Transit Bus (diesel)		0.072	0.072	0.073	0.073	0.073	0.074
Intercity Bus (diesel)		0.022	0.022	0.022	0.022	0.023	0.023
School Bus (motor gasoline)		0.005	0.005	0.005	0.005	0.005	0.005
School Bus (diesel)		0.085	0.085	0.086	0.086	0.086	0.087
Total		0.188	0.189	0.190	0.191	0.192	0.193

Transportation 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>Site Energy Use By Mode and Fuel Type (Quadrillion Btu) (continued)</i>						
<i>Rail Transportation</i>						
Intercity Rail (electricity)	0.008	0.008	0.009	0.009	0.010	0.010
Intercity Rail (diesel)	0.012	0.013	0.013	0.014	0.015	0.016
Transit Rail (electricity)	0.045	0.047	0.050	0.052	0.055	0.058
Commuter Rail (electricity)	0.006	0.006	0.006	0.006	0.007	0.007
Commuter Rail (diesel)	0.008	0.009	0.009	0.010	0.010	0.011
Total	0.079	0.082	0.087	0.092	0.097	0.101
<i>Miscellaneous</i>						
Recreation Boats	0.246	0.258	0.268	0.279	0.289	0.299
Lubricants	0.244	0.261	0.277	0.300	0.313	0.322
Pipeline Fuel Natural Gas	0.733	0.739	0.828	0.886	0.938	0.981
Total	1.223	1.259	1.373	1.465	1.540	1.602
<i>Total Site Energy Use</i>	24.908	27.003	29.967	32.750	34.631	36.433

Transportation Sector Forecast Summary (MtC)
 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>
These carbon emissions are calculated in the spreadsheet, not in NEMS, so they differ slightly from the NEMS totals						
<i>Carbon emissions by mode (MtC)</i>						
Light-Duty Vehicles	267.0	287.4	319.8	346.4	361.4	376.3
Commercial Light Trucks	11.3	12.0	13.2	14.5	15.3	16.1
Freight Trucks	82.4	88.2	95.0	100.8	104.8	108.0
Air	63.3	73.4	84.4	98.8	110.5	122.1
Rail	12.2	12.9	13.4	14.1	14.6	15.0
Marine	27.3	26.4	29.7	33.7	37.2	40.8
Pipeline Fuel	10.6	10.6	11.9	12.8	13.5	14.1
Other	3.8	6.9	7.1	7.4	7.6	7.7
Total	477.8	517.8	574.6	628.4	664.9	700.2
<i>Carbon emissions by fuel type (MtC)</i>						
Distillate Fuel	91.6	101.5	110.6	118.7	125.1	130.4
Jet Fuel	63.3	72.6	83.6	98.0	109.7	121.3
Motor Gasoline	289.7	308.8	335.9	358.2	369.6	381.5
Residual Fuel	15.9	15.8	18.5	21.7	24.6	27.7
Liquefied Petroleum Gas	0.7	1.0	2.1	3.0	3.4	3.8
Other Petroleum	3.0	3.2	3.4	3.6	3.8	3.9
petroleum subtotal	464.1	502.8	554.0	603.2	636.2	668.5
Pipeline Fuel Natural Gas	10.6	10.6	11.9	12.8	13.5	14.1
Compressed Natural Gas	0.2	0.9	2.6	3.7	4.4	4.9
Renewables (E85)	0.0	0.0	0.0	0.0	0.0	0.0
Methanol	0.0	0.3	0.9	1.3	1.7	1.9
Liquid Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	2.9	3.2	5.2	7.4	9.1	10.7
Total	477.8	517.8	574.6	628.4	664.9	700.2
total from carbon worksheet from NEMS	475.3	515.6	572.7	625.8	661.5	696.1
Ratio of our C numbers to those from NEMS	1.005	1.004	1.003	1.004	1.005	1.006

Transportation 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>Carbon emissions By Mode and Fuel Type (MtC)</i>							
<i>Light-Duty Vehicle</i>							
Motor Gasoline		266.31	285.34	312.46	334.13	345.07	356.37
Methanol		0.02	0.32	0.89	1.33	1.66	1.90
Ethanol		0.00	0.00	0.00	0.00	0.00	0.00
Compressed Natural Gas		0.17	0.82	2.46	3.34	3.85	4.21
Liquid Petroleum Gas		0.35	0.66	1.76	2.60	3.04	3.35
Electricity		0.01	0.08	1.99	4.07	5.63	7.09
Liquid Hydrogen		0.00	0.00	0.00	0.00	0.00	0.00
Distillate (diesel)		0.15	0.13	0.25	0.93	2.18	3.36
Total		267.02	287.35	319.81	346.39	361.44	376.28
<i>Commercial Light Trucks</i>							
Motor Gasoline		11.34	12.03	13.23	14.48	15.32	16.05
Total		11.34	12.03	13.23	14.48	15.32	16.05
<i>Freight Trucks</i>							
Motor Gasoline		6.32	5.46	4.07	3.26	2.70	2.33
Distillate (diesel)		71.81	81.10	89.21	95.47	99.74	103.26
Compressed Natural Gas		0.03	0.04	0.11	0.35	0.58	0.72
Liquid Petroleum Gas		0.33	0.32	0.32	0.36	0.39	0.40
Total		78.49	86.91	93.72	99.44	103.40	106.71
<i>Freight Rail</i>							
Distillate (diesel)		8.90	9.36	9.79	10.28	10.66	10.92
Total		8.90	9.36	9.79	10.28	10.66	10.92
<i>Domestic Shipping</i>							
Distillate (diesel)		4.30	4.37	4.51	4.68	4.82	4.88
Residual Oil		1.96	1.97	2.04	2.12	2.18	2.21
Motor Gasoline		0.00	0.00	0.00	0.00	0.00	0.00
Total		6.26	6.34	6.54	6.80	6.99	7.09
<i>International Shipping</i>							
Distillate (diesel)		1.31	1.45	1.73	2.06	2.37	2.68
Residual Oil		13.80	13.68	16.29	19.44	22.32	25.34
Total		15.11	15.13	18.01	21.50	24.68	28.02
<i>Air Transportation</i>							
Jet Fuel		52.51	62.65	73.73	87.51	99.17	110.95
Aviation Gasoline		0.82	0.82	0.81	0.81	0.81	0.81
Total		53.33	63.47	74.54	88.32	99.97	111.76
<i>Military Use</i>							
Jet Fuel		10.79	9.94	9.86	10.52	10.51	10.31
Residual Fuel		0.15	0.14	0.14	0.15	0.15	0.15
Distillate		1.19	1.13	1.13	1.20	1.20	1.18
Total		12.14	11.22	11.14	11.88	11.87	11.64
<i>Bus Transportation</i>							
Transit Bus (motor gasoline)		0.08	0.08	0.08	0.08	0.08	0.08
Transit Bus (diesel)		1.42	1.43	1.44	1.44	1.45	1.46
Intercity Bus (diesel)		0.44	0.44	0.44	0.44	0.45	0.45
School Bus (motor gasoline)		0.09	0.10	0.10	0.10	0.10	0.10
School Bus (diesel)		1.67	1.68	1.69	1.70	1.71	1.72
Total		3.70	3.73	3.76	3.76	3.78	3.82

Transportation Sector Forecast Summary (MtC)
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>Carbon emissions By Mode and Fuel Type (MtC), continued</i>						
<i>Rail Transportation</i>						
Intercity Rail (electricity)	0.39	0.42	0.43	0.45	0.47	0.49
Intercity Rail (diesel)	0.24	0.25	0.26	0.28	0.29	0.31
Transit Rail (electricity)	2.22	2.40	2.47	2.57	2.67	2.78
Commuter Rail (electricity)	0.27	0.29	0.30	0.31	0.33	0.34
Commuter Rail (diesel)	0.17	0.17	0.18	0.19	0.20	0.21
Total	3.29	3.54	3.65	3.80	3.96	4.13
<i>Miscellaneous</i>						
Recreation Boats	4.71	4.95	5.14	5.35	5.54	5.73
Lubricants	2.97	3.17	3.36	3.64	3.80	3.91
Pipeline Fuel Natural Gas	10.55	10.64	11.92	12.76	13.51	14.12
Total	18.23	18.77	20.42	21.75	22.85	23.76
Total carbon emissions	477.82	517.85	574.61	628.40	664.94	700.16

Transportation 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>carbon charge (\$/t)</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>1997</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	
						<i>2020</i>	
<i>Level of Travel by Mode (Billion)</i>							
Light Duty Vehicles (vehicle miles traveled)		2301	2388	2635	2892	3111	3320
Commercial Light Trucks (vehicle miles traveled)		69	74	82	91	98	104
Freight Trucks (vehicle miles traveled)		178	201	224	245	260	272
Air (seat miles demanded)		1050	1218	1482	1818	2135	2471
Rail (ton miles traveled)		1235	1321	1400	1508	1595	1666
Marine (ton miles traveled)		757	782	827	882	930	967
<i>Energy Efficiency Indicator by Mode</i>							
New Vehicle (MPG)		24	23.7	25.1	27.4	29.1	30.5
New Car (MPG)		27.9	28.6	31.2	34.7	36.4	38
New Light Truck (MPG)		20.2	19.5	20.4	22.1	23.6	24.8
Light-Duty Fleet (MPG)		20.5	20.3	20.3	20.9	22.1	23.4
New Commercial Light Truck (MPG)		19.9	18.8	19.5	21.1	22.4	23.5
Stock Commercial Light Truck (MPG)		14.6	14.7	14.9	15.3	15.8	16.5
Aircraft (seat miles/gallon)		51.1	52.2	54	56.7	59.7	62.6
Freight Truck (MPG)		5.6	5.8	6	6.5	7	7.6
Rail (ton miles/kBtu)		2.7	2.8	3	3.1	3.3	3.5
<i>Site Energy Use by Mode (Quadrillion Btu)</i>							
Light-Duty Vehicles		13.9	15.0	16.6	17.7	18.0	18.2
Commercial Light Trucks		0.6	0.6	0.7	0.7	0.8	0.8
Freight Trucks		4.2	4.7	4.9	5.0	4.9	4.8
Air		3.4	3.8	4.4	5.1	5.6	6.1
Rail		0.5	0.6	0.6	0.6	0.6	0.6
Marine		1.3	1.3	1.5	1.6	1.8	2.0
Pipeline Fuel		0.7	0.7	0.8	0.8	0.9	0.9
Other		0.2	0.3	0.3	0.3	0.3	0.3
Total		24.9	27.0	29.7	31.9	32.9	33.7
<i>Energy Use by Fuel Type (Quadrillion Btu)</i>							
Distillate Fuel		4.6	5.1	5.5	5.7	5.9	6.1
Jet Fuel		3.3	3.8	4.4	5.0	5.5	6.0
Motor Gasoline		15.1	16.1	17.4	18.1	18.1	17.8
Residual Fuel		0.8	0.7	0.9	1.0	1.2	1.3
Liquefied Petroleum Gas		0.0	0.1	0.1	0.1	0.2	0.2
Other Petroleum		0.3	0.3	0.3	0.3	0.4	0.4
Petroleum Subtotal		24.10	26.09	28.53	30.38	31.16	31.75
Pipeline Fuel Natural Gas		0.7	0.7	0.8	0.8	0.9	0.9
Compressed Natural Gas		0.0	0.1	0.2	0.2	0.3	0.3
Renewables (E85)		0.0	0.0	0.0	0.1	0.1	0.2
Methanol		0.0	0.0	0.1	0.2	0.3	0.3
Liquid Hydrogen		0.0	0.0	0.0	0.0	0.0	0.0
Electricity		0.1	0.1	0.1	0.2	0.2	0.2
Total Site Energy		24.9	26.9	29.7	31.9	32.8	33.6
Electricity Related Losses		0.1	0.1	0.2	0.3	0.4	0.5
Total Primary Energy		25.0	27.1	30.0	32.2	33.3	34.1

Transportation 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>Site Energy Use By Mode and Fuel Type (Quadrillion Btu)</i>							
<i>Light-Duty Vehicle</i>							
Motor Gasoline		13.902	14.897	16.193	16.899	16.799	16.506
Methanol		0.001	0.012	0.077	0.168	0.246	0.305
Ethanol		0.001	0.005	0.038	0.091	0.135	0.166
Compressed Natural Gas		0.012	0.048	0.144	0.188	0.210	0.222
Liquid Petroleum Gas		0.021	0.032	0.082	0.118	0.135	0.145
Electricity		0.000	0.001	0.041	0.087	0.123	0.157
Liquid Hydrogen		0.000	0.000	0.000	0.000	0.000	0.000
Distillate (diesel)		0.007	0.007	0.018	0.101	0.343	0.673
Total		13.944	15.001	16.594	17.651	17.991	18.173
<i>Commercial Light Trucks</i>							
Motor Gasoline		0.592	0.627	0.686	0.741	0.771	0.792
Total		0.592	0.627	0.686	0.741	0.771	0.792
<i>Freight Trucks</i>							
Motor Gasoline		0.330	0.285	0.212	0.167	0.134	0.113
Distillate (diesel)		3.637	4.097	4.445	4.560	4.497	4.379
Compressed Natural Gas		0.002	0.003	0.008	0.024	0.039	0.046
Liquid Petroleum Gas		0.020	0.019	0.019	0.020	0.020	0.019
Total		3.989	4.404	4.684	4.771	4.690	4.557
<i>Freight Rail</i>							
Distillate (diesel)		0.450	0.467	0.471	0.482	0.485	0.482
Total		0.450	0.467	0.471	0.482	0.485	0.482
<i>Domestic Shipping</i>							
Distillate (diesel)		0.218	0.221	0.226	0.233	0.237	0.238
Residual Oil		0.092	0.092	0.094	0.097	0.099	0.099
Motor Gasoline		0.000	0.000	0.000	0.000	0.000	0.000
Total		0.310	0.313	0.320	0.329	0.335	0.336
<i>International Shipping</i>							
Distillate (diesel)		0.066	0.074	0.088	0.105	0.121	0.137
Residual Oil		0.649	0.644	0.766	0.915	1.050	1.191
Total		0.715	0.718	0.854	1.020	1.171	1.328
<i>Air Transportation</i>							
Jet Fuel		2.743	3.272	3.851	4.500	5.023	5.544
Aviation Gasoline		0.043	0.043	0.042	0.042	0.042	0.042
Total		2.786	3.315	3.893	4.542	5.065	5.586
<i>Military Use</i>							
Jet Fuel		0.565	0.520	0.516	0.551	0.550	0.540
Residual Fuel		0.007	0.007	0.007	0.007	0.007	0.007
Distillate		0.060	0.058	0.058	0.061	0.061	0.060
Total		0.633	0.585	0.581	0.619	0.619	0.607
<i>Bus Transportation</i>							
Transit Bus (motor gasoline)		0.004	0.004	0.004	0.004	0.004	0.004
Transit Bus (diesel)		0.072	0.072	0.072	0.069	0.066	0.062
Intercity Bus (diesel)		0.022	0.022	0.022	0.021	0.020	0.019
School Bus (motor gasoline)		0.005	0.005	0.005	0.005	0.005	0.004
School Bus (diesel)		0.085	0.085	0.085	0.081	0.077	0.073
Total		0.188	0.189	0.188	0.180	0.171	0.163

Transportation 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>Site Energy Use By Mode and Fuel Type (Quadrillion Btu) (continued)</i>						
<i>Rail Transportation</i>						
Intercity Rail (electricity)	0.008	0.008	0.009	0.010	0.011	0.011
Intercity Rail (diesel)	0.012	0.013	0.014	0.015	0.017	0.018
Transit Rail (electricity)	0.045	0.047	0.052	0.056	0.061	0.065
Commuter Rail (electricity)	0.006	0.006	0.006	0.007	0.007	0.008
Commuter Rail (diesel)	0.008	0.009	0.010	0.011	0.011	0.012
Total	0.080	0.083	0.091	0.099	0.107	0.115
<i>Miscellaneous</i>						
Recreation Boats	0.246	0.258	0.268	0.279	0.289	0.299
Lubricants	0.244	0.261	0.277	0.300	0.313	0.322
Pipeline Fuel Natural Gas	0.733	0.739	0.797	0.840	0.860	0.886
Total	1.223	1.259	1.342	1.419	1.462	1.506
<i>Total Site Energy Use</i>	24.909	26.961	29.703	31.854	32.867	33.645

Transportation 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>
These carbon emissions are calculated in the spreadsheet, not in NEMS, so they differ slightly from the NEMS totals						
<i>Carbon emissions by mode (MtC)</i>						
Light-Duty Vehicles	267.0	287.0	317.3	337.5	344.1	348.1
Commercial Light Trucks	11.3	12.0	13.1	14.2	14.8	15.2
Freight Trucks	82.4	88.0	93.6	95.3	93.6	91.0
Air	63.3	73.4	84.4	97.5	107.5	117.2
Rail	12.3	12.8	13.1	13.6	14.0	14.3
Marine	27.3	26.4	29.6	33.5	37.0	40.6
Pipeline Fuel	10.6	10.6	11.5	12.1	12.4	12.7
Other	3.8	6.9	7.1	7.2	7.2	7.1
Total	477.9	517.2	569.7	610.9	630.5	646.1
<i>Carbon emissions by fuel type (MtC)</i>						
Distillate Fuel	91.6	101.2	108.8	113.4	117.2	121.5
Jet Fuel	63.3	72.6	83.6	96.7	106.7	116.4
Motor Gasoline	289.7	308.8	333.5	347.4	345.7	340.2
Residual Fuel	15.9	15.8	18.4	21.7	24.6	27.6
Liquefied Petroleum Gas	0.7	0.9	1.7	2.3	2.6	2.7
Other Petroleum	3.0	3.2	3.4	3.6	3.8	3.9
petroleum subtotal	464.1	502.4	549.4	585.1	600.5	612.4
Pipeline Fuel Natural Gas	10.6	10.6	11.5	12.1	12.4	12.7
Compressed Natural Gas	0.2	0.7	2.2	3.0	3.5	3.8
Renewables (E85)	0.0	0.0	0.0	0.0	0.0	0.0
Methanol	0.0	0.2	1.4	2.9	4.3	5.3
Liquid Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	3.0	3.2	5.3	7.8	9.8	11.8
Total	477.9	517.2	569.7	610.9	630.5	646.1
total from carbon worksheet from NEMS	475.4	514.9	567.8	606	622.8	637.6
Ratio of our C numbers to those from NEMS	1.005	1.004	1.003	1.008	1.012	1.013

Transportation Sector Forecast Summary (MtC)
 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>Carbon emissions By Mode and Fuel Type (MtC)</i>							
<i>Light-Duty Vehicle</i>							
Motor Gasoline		266.31	285.37	310.20	323.73	321.81	316.20
Methanol		0.02	0.21	1.35	2.93	4.29	5.33
Ethanol		0.00	0.00	0.00	0.00	0.00	0.00
Compressed Natural Gas		0.17	0.68	2.05	2.67	2.99	3.16
Liquid Petroleum Gas		0.35	0.53	1.38	1.98	2.26	2.43
Electricity		0.01	0.05	2.01	4.25	5.98	7.65
Liquid Hydrogen		0.00	0.00	0.00	0.00	0.00	0.00
Distillate (diesel)		0.14	0.14	0.36	2.00	6.77	13.30
Total		267.00	286.99	317.35	337.55	344.11	348.06
<i>Commercial Light Trucks</i>							
Motor Gasoline		11.34	12.01	13.14	14.20	14.78	15.17
Total		11.34	12.01	13.14	14.20	14.78	15.17
<i>Freight Trucks</i>							
Motor Gasoline		6.32	5.46	4.06	3.20	2.57	2.17
Distillate (diesel)		71.83	80.92	87.79	90.06	88.82	86.49
Compressed Natural Gas		0.03	0.04	0.12	0.34	0.55	0.65
Liquid Petroleum Gas		0.33	0.32	0.31	0.33	0.33	0.32
Total		78.51	86.74	92.28	93.94	92.27	89.62
<i>Freight Rail</i>							
Distillate (diesel)		8.89	9.23	9.30	9.52	9.58	9.51
Total		8.89	9.23	9.30	9.52	9.58	9.51
<i>Domestic Shipping</i>							
Distillate (diesel)		4.30	4.37	4.46	4.59	4.67	4.69
Residual Oil		1.95	1.96	2.00	2.06	2.10	2.10
Motor Gasoline		0.00	0.00	0.00	0.00	0.00	0.00
Total		6.26	6.33	6.46	6.65	6.77	6.80
<i>International Shipping</i>							
Distillate (diesel)		1.31	1.46	1.74	2.08	2.39	2.71
Residual Oil		13.81	13.69	16.30	19.46	22.34	25.34
Total		15.12	15.16	18.04	21.54	24.72	28.05
<i>Air Transportation</i>							
Jet Fuel		52.49	62.62	73.70	86.12	96.12	106.09
Aviation Gasoline		0.82	0.82	0.81	0.81	0.81	0.81
Total		53.31	63.43	74.50	86.92	96.93	106.90
<i>Military Use</i>							
Jet Fuel		10.81	9.96	9.88	10.54	10.53	10.33
Residual Fuel		0.15	0.15	0.14	0.15	0.15	0.15
Distillate		1.19	1.14	1.14	1.21	1.21	1.19
Total		12.16	11.25	11.16	11.90	11.89	11.67
<i>Bus Transportation</i>							
Transit Bus (motor gasoline)		0.08	0.08	0.08	0.08	0.07	0.07
Transit Bus (diesel)		1.42	1.43	1.42	1.36	1.30	1.23
Intercity Bus (diesel)		0.44	0.44	0.44	0.42	0.40	0.38
School Bus (motor gasoline)		0.09	0.10	0.09	0.09	0.09	0.08
School Bus (diesel)		1.67	1.68	1.67	1.60	1.53	1.45
Total		3.71	3.73	3.70	3.55	3.38	3.21

Transportation 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>Carbon emissions By Mode and Fuel Type (MtC), continued</i>						
<i>Rail Transportation</i>						
Intercity Rail (electricity)	0.40	0.43	0.45	0.48	0.52	0.56
Intercity Rail (diesel)	0.24	0.26	0.28	0.30	0.33	0.35
Transit Rail (electricity)	2.30	2.43	2.54	2.74	2.95	3.20
Commuter Rail (electricity)	0.28	0.30	0.31	0.33	0.36	0.39
Commuter Rail (diesel)	0.17	0.18	0.19	0.21	0.23	0.24
Total	3.39	3.58	3.77	4.07	4.37	4.74
<i>Miscellaneous</i>						
Recreation Boats	4.71	4.94	5.13	5.35	5.54	5.73
Lubricants	2.97	3.17	3.36	3.64	3.80	3.91
Pipeline Fuel Natural Gas	10.55	10.64	11.48	12.10	12.38	12.75
Total	18.23	18.76	19.98	21.08	21.72	22.39
<i>Total carbon emissions</i>	477.92	517.19	569.68	610.92	630.53	646.11

Transportation 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>Level of Travel by Mode (Billion)</i>							
Light Duty Vehicles (vehicle miles traveled)		2301	2388	2587	2829	2960	3184
Commercial Light Trucks (vehicle miles traveled)		69	74	81	90	95	103
Freight Trucks (vehicle miles traveled)		178	202	224	246	260	273
Air (seat miles demanded)		1067	1237	1498	1781	2095	2425
Rail (ton miles traveled)		1236	1316	1286	1352	1412	1428
Marine (ton miles traveled)		758	783	828	883	931	968
<i>Energy Efficiency Indicator by Mode</i>							
New Vehicle (MPG)		24	24	27.3	32.8	36.6	41.6
New Car (MPG)		27.9	29	34	41.5	45.9	51.4
New Light Truck (MPG)		20.2	19.8	22.1	26.4	29.6	33.9
Light-Duty Fleet (MPG)		20.5	20.4	20.8	22.8	25.3	28.3
New Commercial Light Truck (MPG)		19.9	19.1	20.6	24.3	26.7	29.2
Stock Commercial Light Truck (MPG)		14.6	14.7	15.1	16	17.2	18.7
Aircraft (seat miles/gallon)		52	53.2	56.5	59.9	62.9	65.8
Freight Truck (MPG)		5.6	5.8	6.1	6.8	7.9	9
Rail (ton miles/kBtu)		2.8	2.9	3.1	3.4	3.6	3.9
<i>Site Energy Use by Mode (Quadrillion Btu)</i>							
Light-Duty Vehicles		13.9	15.0	15.9	15.9	15.0	14.4
Commercial Light Trucks		0.6	0.6	0.7	0.7	0.7	0.7
Freight Trucks		4.2	4.7	4.9	4.8	4.4	4.0
Air		3.4	3.8	4.3	4.8	5.3	5.8
Rail		0.5	0.5	0.5	0.5	0.5	0.5
Marine		1.3	1.3	1.4	1.6	1.8	2.0
Pipeline Fuel		0.7	0.8	0.8	0.9	0.9	0.9
Other		0.2	0.3	0.3	0.3	0.3	0.3
Total		24.9	26.9	28.9	29.5	28.8	28.6
<i>Energy Use by Fuel Type (Quadrillion Btu)</i>							
Distillate Fuel		4.6	5.1	5.6	5.9	5.8	5.7
Jet Fuel		3.3	3.8	4.2	4.7	5.2	5.7
Motor Gasoline		15.1	16.1	16.6	16.1	14.7	13.7
Residual Fuel		0.8	0.7	0.9	1.0	1.2	1.3
Liquefied Petroleum Gas		0.0	0.1	0.1	0.1	0.1	0.1
Other Petroleum		0.3	0.3	0.3	0.3	0.4	0.4
Petroleum Subtotal		24.10	26.07	27.70	28.13	27.33	26.83
Pipeline Fuel Natural Gas		0.7	0.8	0.8	0.9	0.9	0.9
Compressed Natural Gas		0.0	0.1	0.2	0.2	0.2	0.2
Renewables (E85)		0.0	0.0	0.0	0.0	0.0	0.0
Methanol		0.0	0.0	0.1	0.1	0.1	0.2
Liquid Hydrogen		0.0	0.0	0.0	0.0	0.0	0.1
Electricity		0.1	0.1	0.1	0.2	0.2	0.2
Total Site Energy		24.9	26.9	28.9	29.5	28.8	28.5
Electricity Related Losses		0.1	0.1	0.2	0.3	0.4	0.4
Total Primary Energy		25.0	27.1	29.1	29.8	29.2	28.9

Transportation 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>Site Energy Use By Mode and Fuel Type (Quadrillion Btu)</i>							
<i>Light-Duty Vehicle</i>							
Motor Gasoline		13.902	14.871	15.452	14.890	13.536	12.535
Methanol		0.001	0.011	0.055	0.102	0.131	0.173
Ethanol		0.000	0.003	0.018	0.035	0.041	0.043
Compressed Natural Gas		0.012	0.047	0.140	0.172	0.183	0.184
Liquid Petroleum Gas		0.021	0.031	0.079	0.105	0.112	0.114
Electricity		0.000	0.001	0.040	0.083	0.110	0.136
Liquid Hydrogen		0.000	0.000	0.000	0.000	0.015	0.104
Distillate (diesel)		0.007	0.015	0.154	0.509	0.878	1.125
Total		13.943	14.980	15.937	15.896	15.006	14.413
<i>Commercial Light Trucks</i>							
Motor Gasoline		0.592	0.627	0.673	0.702	0.694	0.686
Total		0.592	0.627	0.673	0.702	0.694	0.686
<i>Freight Trucks</i>							
Motor Gasoline		0.330	0.286	0.212	0.165	0.128	0.098
Distillate (diesel)		3.639	4.101	4.427	4.381	3.977	3.666
Compressed Natural Gas		0.002	0.003	0.008	0.024	0.037	0.042
Liquid Petroleum Gas		0.020	0.019	0.019	0.020	0.019	0.018
Total		3.991	4.408	4.667	4.591	4.160	3.823
<i>Freight Rail</i>							
Distillate (diesel)		0.448	0.456	0.413	0.403	0.390	0.366
Total		0.448	0.456	0.413	0.403	0.390	0.366
<i>Domestic Shipping</i>							
Distillate (diesel)		0.217	0.219	0.220	0.223	0.224	0.221
Residual Oil		0.092	0.091	0.092	0.093	0.093	0.092
Motor Gasoline		0.000	0.000	0.000	0.000	0.000	0.000
Total		0.309	0.310	0.312	0.316	0.317	0.313
<i>International Shipping</i>							
Distillate (diesel)		0.066	0.074	0.088	0.105	0.121	0.137
Residual Oil		0.649	0.644	0.767	0.916	1.051	1.193
Total		0.716	0.718	0.855	1.021	1.172	1.330
<i>Air Transportation</i>							
Jet Fuel		2.734	3.263	3.719	4.176	4.678	5.171
Aviation Gasoline		0.043	0.043	0.042	0.042	0.042	0.042
Total		2.777	3.306	3.761	4.218	4.720	5.213
<i>Military Use</i>							
Jet Fuel		0.574	0.528	0.525	0.559	0.559	0.548
Residual Fuel		0.007	0.007	0.007	0.007	0.007	0.007
Distillate		0.060	0.058	0.058	0.061	0.061	0.060
Total		0.641	0.593	0.589	0.628	0.627	0.615
<i>Bus Transportation</i>							
Transit Bus (motor gasoline)		0.004	0.004	0.004	0.004	0.003	0.003
Transit Bus (diesel)		0.072	0.072	0.071	0.066	0.057	0.052
Intercity Bus (diesel)		0.022	0.022	0.022	0.020	0.018	0.016
School Bus (motor gasoline)		0.005	0.005	0.005	0.005	0.004	0.004
School Bus (diesel)		0.085	0.085	0.084	0.078	0.067	0.061
Total		0.188	0.189	0.186	0.172	0.149	0.135

Transportation 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>Site Energy Use By Mode and Fuel Type (Quadrillion Btu) (continued)</i>						
<i>Rail Transportation</i>						
Intercity Rail (electricity)	0.008	0.009	0.009	0.011	0.012	0.013
Intercity Rail (diesel)	0.012	0.013	0.015	0.016	0.018	0.020
Transit Rail (electricity)	0.046	0.048	0.054	0.060	0.066	0.073
Commuter Rail (electricity)	0.006	0.006	0.007	0.007	0.008	0.009
Commuter Rail (diesel)	0.009	0.009	0.010	0.011	0.012	0.014
Total	0.080	0.085	0.095	0.105	0.115	0.128
<i>Miscellaneous</i>						
Recreation Boats	0.246	0.259	0.269	0.280	0.290	0.300
Lubricants	0.244	0.261	0.277	0.299	0.313	0.322
Pipeline Fuel Natural Gas	0.733	0.745	0.841	0.846	0.867	0.907
Total	1.223	1.265	1.387	1.424	1.470	1.528
<i>Total Site Energy Use</i>	24.908	26.938	28.874	29.476	28.820	28.550

Transportation 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>	0	0	50	50	50	50
<i>supply side efficiency</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>	<i>Adv</i>
	1997	2000	2005	2010	2015	2020
These carbon emissions are calculated in the spreadsheet, not in NEMS, so they differ slightly from the NEMS totals						
<i>Carbon emissions by mode (MtC)</i>						
Light-Duty Vehicles	267.0	286.6	305.0	304.5	287.5	274.4
Commercial Light Trucks	11.3	12.0	12.9	13.4	13.3	13.1
Freight Trucks	82.4	88.1	93.2	91.7	83.2	76.5
Air	63.3	73.4	82.0	91.4	101.0	110.3
Rail	12.2	12.6	11.6	11.6	11.5	11.0
Marine	27.3	26.4	29.5	33.3	36.7	40.2
Pipeline Fuel	10.6	10.7	12.1	12.2	12.5	13.1
Other	3.8	6.9	7.0	7.0	6.7	6.6
Total	477.9	516.7	553.3	565.2	552.4	545.1
<i>Carbon emissions by fuel type (MtC)</i>						
Distillate Fuel	91.6	101.2	109.8	116.0	115.0	113.3
Jet Fuel	63.3	72.6	81.2	90.6	100.2	109.4
Motor Gasoline	289.7	308.3	319.1	308.2	281.5	261.8
Residual Fuel	15.9	15.8	18.4	21.6	24.5	27.5
Liquefied Petroleum Gas	0.7	0.8	1.6	2.1	2.2	2.2
Other Petroleum	3.0	3.2	3.4	3.6	3.8	3.9
petroleum subtotal	464.1	501.9	533.6	542.1	527.3	518.2
Pipeline Fuel Natural Gas	10.6	10.7	12.1	12.2	12.5	13.1
Compressed Natural Gas	0.2	0.7	2.1	2.8	3.1	3.2
Renewables (E85)	0.0	0.0	0.0	0.0	0.0	0.0
Methanol	0.0	0.2	1.0	1.8	2.3	3.0
Liquid Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	3.0	3.2	4.6	6.3	7.3	7.6
Total	477.9	516.7	553.3	565.2	552.4	545.1
total from carbon worksheet from NEMS	475.4	514.4	551	559.6	542.7	533.3
Ratio of our C numbers to those from NEMS	1.005	1.005	1.004	1.010	1.018	1.022

Transportation 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>Carbon emissions By Mode and Fuel Type (MtC)</i>							
<i>Light-Duty Vehicle</i>							
Motor Gasoline		266.31	284.88	296.01	285.24	259.30	240.13
Methanol		0.02	0.18	0.96	1.78	2.28	3.02
Ethanol		0.00	0.00	0.00	0.00	0.00	0.00
Compressed Natural Gas		0.17	0.67	2.00	2.46	2.61	2.62
Liquid Petroleum Gas		0.35	0.52	1.32	1.76	1.89	1.91
Electricity		0.02	0.06	1.67	3.25	4.12	4.48
Liquid Hydrogen		0.00	0.00	0.00	0.00	0.00	0.00
Distillate (diesel)		0.14	0.30	3.04	10.05	17.33	22.22
Total		267.00	286.62	304.99	304.53	287.53	274.37
<i>Commercial Light Trucks</i>							
Motor Gasoline		11.34	12.01	12.89	13.44	13.29	13.14
Total		11.34	12.01	12.89	13.44	13.29	13.14
<i>Freight Trucks</i>							
Motor Gasoline		6.32	5.47	4.07	3.17	2.44	1.87
Distillate (diesel)		71.87	81.00	87.44	86.53	78.55	72.41
Compressed Natural Gas		0.03	0.04	0.12	0.35	0.52	0.60
Liquid Petroleum Gas		0.33	0.32	0.32	0.34	0.32	0.29
Total		78.55	86.83	91.94	90.38	81.83	75.17
<i>Freight Rail</i>							
Distillate (diesel)		8.85	9.00	8.16	7.95	7.70	7.22
Total		8.85	9.00	8.16	7.95	7.70	7.22
<i>Domestic Shipping</i>							
Distillate (diesel)		4.29	4.32	4.35	4.41	4.42	4.37
Residual Oil		1.95	1.94	1.95	1.98	1.98	1.96
Motor Gasoline		0.00	0.00	0.00	0.00	0.00	0.00
Total		6.24	6.26	6.30	6.38	6.40	6.33
<i>International Shipping</i>							
Distillate (diesel)		1.31	1.46	1.74	2.08	2.39	2.71
Residual Oil		13.81	13.71	16.32	19.48	22.36	25.38
Total		15.12	15.17	18.06	21.56	24.75	28.09
<i>Air Transportation</i>							
Jet Fuel		52.32	62.44	71.17	79.91	89.52	98.96
Aviation Gasoline		0.82	0.82	0.81	0.81	0.81	0.81
Total		53.14	63.26	71.98	80.72	90.33	99.76
<i>Military Use</i>							
Jet Fuel		10.98	10.11	10.04	10.70	10.69	10.49
Residual Fuel		0.15	0.15	0.14	0.15	0.15	0.15
Distillate		1.19	1.15	1.14	1.21	1.21	1.19
Total		12.32	11.40	11.32	12.07	12.06	11.83
<i>Bus Transportation</i>							
Transit Bus (motor gasoline)		0.08	0.08	0.08	0.07	0.06	0.06
Transit Bus (diesel)		1.42	1.43	1.40	1.30	1.13	1.02
Intercity Bus (diesel)		0.44	0.44	0.43	0.40	0.35	0.31
School Bus (motor gasoline)		0.09	0.10	0.09	0.09	0.08	0.07
School Bus (diesel)		1.67	1.68	1.65	1.53	1.33	1.20
Total		3.71	3.73	3.66	3.39	2.94	2.65

Transportation 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>Carbon emissions By Mode and Fuel Type (MtC), continued</i>							
<i>Rail Transportation</i>							
Intercity Rail (electricity)		0.40	0.43	0.40	0.41	0.43	0.42
Intercity Rail (diesel)		0.24	0.26	0.29	0.32	0.35	0.39
Transit Rail (electricity)		2.30	2.42	2.26	2.35	2.45	2.40
Commuter Rail (electricity)		0.28	0.30	0.27	0.29	0.30	0.29
Commuter Rail (diesel)		0.17	0.18	0.20	0.22	0.25	0.27
Total		3.39	3.59	3.42	3.60	3.78	3.78
<i>Miscellaneous</i>							
Recreation Boats		4.71	4.96	5.15	5.36	5.55	5.75
Lubricants		2.97	3.17	3.36	3.63	3.80	3.91
Pipeline Fuel Natural Gas		10.55	10.73	12.11	12.17	12.48	13.05
Total		18.23	18.86	20.62	21.16	21.83	22.70
<i>Total carbon emissions</i>		477.91	516.72	553.34	565.20	552.45	545.05