

Regional	Metric Tons of CO2e from Gas and Diesel Sales	Emission Budget - Metric Tons CO2e	10% CCR	Allowances	Shortfall Percent	Lbs of CO2 @ 2205 lbs/mton Shortfall	Shortfall of	Eliminated	Backup lines 50-59	
				over/under 2019 demand mtons			gallons @ 18.22	Demand for LDV		
							lbs of CO2 / gallon of e10/diesel	@ 500 gall./year per LDV		
2019	44,676,827								44,676,827	
2023	44,676,827	42,134,546	46,348,001	1,671,173			-	-	44,676,827	2023
2024	44,623,641	40,730,061	44,803,067	179,427			-	-	44,623,641	99.88% 2024
2025	44,410,894	39,325,576	43,258,134	(1,152,760)	-2.6%	(2,541,835,849)	(139,532,932)	(279,066)	44,410,894	99.52% 2025
2026	44,144,960	37,921,091	41,713,201	(2,431,760)	-5.5%	(5,362,030,533)	(294,346,247)	(588,692)	44,144,960	99.40% 2026
2027	43,772,654	36,516,607	40,168,267	(3,604,386)	-8.2%	(7,947,671,874)	(436,283,862)	(872,568)	43,772,654	99.16% 2027
2028	43,400,347	35,112,122	38,623,334	(4,777,013)	-11.0%	(10,533,313,214)	(578,221,477)	(1,156,443)	43,400,347	99.15% 2028
2029	43,028,040	33,707,637	37,078,400	(5,949,639)	-13.8%	(13,118,954,554)	(720,159,092)	(1,440,318)	43,028,040	99.14% 2029
2030	42,549,359	32,303,152	35,533,467	(7,015,892)	-16.5%	(15,470,042,551)	(849,221,007)	(1,698,442)	42,549,359	98.89% 2030
2031	42,230,239	30,898,667	33,988,534	(8,241,705)	-19.5%	(18,172,960,563)	(997,596,472)	(1,995,193)	42,230,239	99.25% 2031
2032	41,857,932	29,494,182	32,443,600	(9,414,332)	-22.5%	(20,758,601,904)	(1,139,534,087)	(2,279,068)	41,857,932	99.12% 2032
2032 Pct 202:	93.69%	70%								
% decline	6.31%									
		29,494,182	30% decline in allowances 2023-2032							
		1,404,485	Yearly decline in allowances							

CT	Metric Tons of CO2e from Gas and Diesel Sales	Emission Budget - Metric Tons CO2e	10% CCR	Allowances	Lbs of CO2 @	Shortfall of gallons @	Eliminated	Backup lines 50-59		
				over/under 2019 demand mtons	2205 lbs/mton Shortfall	18.28 lbs of CO2 / gallon of e10/diesel	Demand for LDV @ 500 gall./year per LDV			
2019	14,284,273								14,284,273	
2023	14,284,273	13,497,957	14,847,753	563,480					14,284,273	2023
2024	14,267,268	13,048,025	14,352,828	85,560				%	14,267,268	99.88% 2024
2025	14,199,248	12,598,093	13,857,902	(341,345)	(752,666,302)	(41,179,015)	(82,358)	-2.4%	14,199,248	99.52% 2025
2026	14,114,222	12,148,161	13,362,977	(751,245)	(1,656,495,285)	(90,628,270)	(181,257)	-5.3%	14,114,222	99.40% 2026
2027	13,995,187	11,698,229	12,868,052	(1,127,135)	(2,485,331,834)	(135,974,625)	(271,949)	-7.9%	13,995,187	99.16% 2027
2028	13,876,151	11,248,297	12,373,127	(1,503,024)	(3,314,168,384)	(181,320,980)	(362,642)	-10.5%	13,876,151	99.15% 2028
2029	13,757,115	10,798,365	11,878,202	(1,878,914)	(4,143,004,934)	(226,667,334)	(453,335)	-13.2%	13,757,115	99.14% 2029
2030	13,604,070	10,348,433	11,383,276	(2,220,793)	(4,896,849,050)	(267,910,789)	(535,822)	-15.5%	13,604,070	98.89% 2030
2031	13,502,039	9,898,501	10,888,351	(2,613,688)	(5,763,181,816)	(315,308,594)	(630,617)	-18.3%	13,502,039	99.25% 2031
2032	13,383,003	9,448,569	10,393,426	(2,989,577)	(6,592,018,366)	(360,654,949)	(721,310)	-20.9%	13,383,003	99.12% 2032
2032 Pct 2023	93.69%	70%								
% decline	6.31%									

9,448,570 30% decline in allowances 2023-2032  
449,932 Yearly decline in allowances

CT Tax Loss	Emissions budget	Gasoline Share	Diesel Share	Gasoline Share	Diesel Share	EIA Forecast	EIA Forecast	Gasoline	Diesel	Gasoline Excise	Gasoline GRT	Diesel Excise	Total
	Metric Tons of CO2	Metric Tons of CO2	Metric Tons of CO2	TCI Gallons	TCI Gallons	Gallons Gasoline	Gallons Diesel	Shortfall	Shortfall	Shortfall	Shortfall*	Shortfall	
2023	13,497,957	10,708,055	2,789,902	1,355,106,994	273,251,864	1,434,048,000	289,170,000	(78,941,006)	(15,918,136)	(\$19,735,252)	(\$13,561,670)	(7,099,489)	(\$40,396,410)
2024	13,048,025	10,351,120	2,696,905	1,309,936,751	264,143,467	1,427,776,653	292,925,455	(117,839,902)	(28,781,988)	(\$29,459,976)	(\$20,244,306)	(12,836,767)	(\$62,541,048)
2025	12,598,093	9,994,185	2,603,908	1,264,766,508	255,035,069	1,417,324,408	294,803,182	(152,557,901)	(39,768,113)	(\$38,139,475)	(\$26,208,685)	(17,736,578)	(\$82,084,738)
2026	12,148,161	9,637,250	2,510,911	1,219,596,264	245,926,672	1,406,872,163	294,803,182	(187,275,899)	(48,876,510)	(\$46,818,975)	(\$32,173,063)	(21,798,923)	(\$100,790,961)
2027	11,698,229	9,280,314	2,417,915	1,174,426,021	236,818,274	1,394,329,469	292,925,455	(219,903,448)	(56,107,180)	(\$54,975,862)	(\$37,778,313)	(25,023,802)	(\$117,777,977)
2028	11,248,297	8,923,379	2,324,918	1,129,255,778	227,709,877	1,379,696,327	292,925,455	(250,440,548)	(65,215,578)	(\$62,610,137)	(\$43,024,434)	(29,086,148)	(\$134,720,719)
2029	10,798,365	8,566,444	2,231,921	1,084,085,535	218,601,479	1,367,153,633	291,047,727	(283,068,098)	(72,446,248)	(\$70,767,024)	(\$48,629,684)	(32,311,027)	(\$151,707,735)
2030	10,348,433	8,209,509	2,138,924	1,038,915,292	209,493,082	1,352,520,490	287,292,273	(313,605,198)	(77,799,191)	(\$78,401,300)	(\$53,875,805)	(34,698,439)	(\$166,975,544)
2031	9,898,501	7,852,573	2,045,928	993,745,049	200,384,684	1,342,068,245	285,414,545	(348,323,196)	(85,029,861)	(\$87,080,799)	(\$59,840,184)	(37,923,318)	(\$184,844,301)
2032	9,448,569	7,495,638	1,952,931	948,574,805	191,276,287	1,329,525,551	283,536,818	(380,950,746)	(92,260,531)	(\$95,237,686)	(\$65,445,433)	(41,148,197)	(\$201,831,317)
						92.71%	98.05%	(2,332,905,942)	(582,203,336)	(583,226,486)	#####	(259,662,688)	(\$1,243,670,750)

TCI Auction Revenue	Emissions budget	Average Auction	Total Revenue	45% for Spec	Net to STF
	Metric Tons of CO2	Price/Mton CO2	from Auctions	Trans Fund	Less loss tax \$
2023	13,497,957	\$9.25	\$124,856,102	\$56,185,246	\$15,788,836
2024	13,048,025	\$10.21	\$133,155,095	\$59,919,793	(\$2,621,255)
2025	12,598,093	\$11.27	\$141,917,518	\$63,862,883	(\$18,221,855)
2026	12,148,161	\$12.44	\$151,123,123	\$68,005,405	(\$32,785,556)
2027	11,698,229	\$13.73	\$160,616,684	\$72,277,508	(\$45,500,469)
2028	11,248,297	\$15.17	\$170,580,424	\$76,761,191	(\$57,959,528)
2029	10,798,365	\$16.76	\$180,926,606	\$81,416,973	(\$70,290,762)
2030	10,348,433	\$18.51	\$191,549,495	\$86,197,273	(\$80,778,271)
2031	9,898,501	\$19.83	\$196,287,275	\$88,329,274	(\$96,515,027)
2032	9,448,569	\$21.23	\$200,593,120	\$90,266,904	(\$111,564,413)
			\$1,651,605,441	\$743,222,449	(\$500,448,301)

Total Net to STF

\*Uses an avg. wholesale price of \$1.97 over the past 5 years

MA	Metric Tons of CO2e from Gas and Diesel Sales	Emission Budget - Metric Tons CO2e	10% CCR	Allowances over/under 2019 demand mtons	Lbs of CO2 @ 2205 lbs/mton Shortfall	Shortfall of gallons	Eliminated	Backup lines 50-59
						@ 18.19 lbs of CO2 / gallon of e10/diesel	Demand for LDV @ 500 gall./year per LDV	
2019	25,705,507							25,705,507
2023	25,705,507	24,467,216	26,913,938	1,208,431		-	-	25,705,507
2024	25,674,905	23,651,642	26,016,806	341,901		-	-	25,674,905
2025	25,552,498	22,836,068	25,119,675	(432,823)	(954,374,671)	(52,473,881)	(104,948)	25,552,498
2026	25,399,489	22,020,494	24,222,544	(1,176,945)	(2,595,164,305)	(142,688,555)	(285,377)	25,399,489
2027	25,185,277	21,204,921	23,325,413	(1,859,864)	(4,101,000,027)	(225,483,129)	(450,966)	25,185,277
2028	24,971,064	20,389,347	22,428,281	(2,542,783)	(5,606,835,748)	(308,277,703)	(616,555)	24,971,064
2029	24,756,851	19,573,773	21,531,150	(3,225,701)	(7,112,671,470)	(391,072,276)	(782,145)	24,756,851
2030	24,481,435	18,758,199	20,634,019	(3,847,416)	(8,483,553,280)	(466,446,750)	(932,894)	24,481,435
2031	24,297,825	17,942,625	19,736,888	(4,560,937)	(10,056,865,957)	(552,951,374)	(1,105,903)	24,297,825
2032	24,083,612	17,127,051	18,839,756	(5,243,856)	(11,562,701,679)	(635,745,948)	(1,271,492)	24,083,612
2032 Pct 2023 % decline	93.69% 6.31%	70%						

17,127,051 30% decline in allowances 2023-2032  
815,574 Yearly decline in allowances

MA Tax Loss	Emissions budget Metric Tons of CO2	Total TCI Gallons	EIA Forecast Gallons	Fuel Shortfall	Tax Revenue Shortfall @ 26.54 cp/g
2023	24,467,216	2,966,316,106	3,116,442,000	(150,125,894)	(\$39,843,412)
2024	23,651,642	2,867,438,903	3,112,731,950	(245,293,047)	(\$65,100,775)
2025	22,836,068	2,768,561,699	3,097,891,750	(329,330,051)	(\$87,404,195)
2026	22,020,494	2,669,684,496	3,079,341,500	(409,657,004)	(\$108,722,969)
2027	21,204,921	2,570,807,292	3,053,371,150	(482,563,858)	(\$128,072,448)
2028	20,389,347	2,471,930,089	3,027,400,800	(555,470,711)	(\$147,421,927)
2029	19,573,773	2,373,052,885	3,001,430,450	(628,377,565)	(\$166,771,406)
2030	18,758,199	2,274,175,682	2,968,040,000	(693,864,318)	(\$184,151,590)
2031	17,942,625	2,175,298,478	2,945,779,700	(770,481,222)	(\$204,485,716)
2032	17,127,051	2,076,421,274	2,919,809,350	(843,388,076)	(\$223,835,195)
		70%	93.69%		(\$1,355,809,633)

TCI Auction Revenue	60% Remaining for Transportation	Less Lost Tax Revenue
\$226,321,748	\$135,793,049	\$95,949,637
\$241,365,008	\$144,819,005	\$79,718,230
\$257,248,309	\$154,348,985	\$66,944,790
\$273,934,950	\$164,360,970	\$55,638,001
\$291,143,559	\$174,686,135	\$46,613,687
\$309,204,442	\$185,522,665	\$38,100,739
\$327,958,563	\$196,775,138	\$30,003,732
\$347,214,262	\$208,328,557	\$24,176,967
\$355,802,255	\$213,481,353	\$8,995,637
\$363,607,297	\$218,164,378	(\$5,670,817)
\$2,993,800,394	\$1,796,280,236	\$440,470,603

RI	<u>Metric Tons of CO2e from Gas and Diesel Sales</u>	<u>Emission Budget - Metric Tons CO2e</u>	<u>10% CCR</u>	<u>Allowances over/under 2019 demand mtons</u>	<u>Lbs of CO2 @ 2205 lbs/mton Shortfall</u>	<u>Shortfall of gallons @ 18.23 lbs of CO2 / gallon of e10/diesel</u>	<u>Eliminated Demand for LDV @ 500 gall./year per LDV</u>	Backup lines 50-59	
2019	3,619,089							3,619,089	
2023	3,619,089	3,291,658	3,620,824	1,735		-	-	3,619,089	2023
2024	3,614,781	3,181,936	3,500,130	(114,651)	(252,805,603)	(13,865,563)	(27,731)	3,614,781	99.88% 2024
2025	3,597,547	3,072,214	3,379,436	(218,111)	(480,935,716)	(26,377,755)	(52,756)	3,597,547	99.52% 2025
2026	3,576,005	2,962,492	3,258,741	(317,263)	(699,565,720)	(38,368,898)	(76,738)	3,576,005	99.40% 2026
2027	3,545,846	2,852,770	3,138,047	(407,798)	(899,195,505)	(49,317,941)	(98,636)	3,545,846	99.16% 2027
2028	3,515,687	2,743,048	3,017,353	(498,333)	(1,098,825,291)	(60,266,983)	(120,534)	3,515,687	99.15% 2028
2029	3,485,528	2,633,326	2,896,659	(588,869)	(1,298,455,077)	(71,216,026)	(142,432)	3,485,528	99.14% 2029
2030	3,446,752	2,523,604	2,775,965	(670,787)	(1,479,084,644)	(81,122,969)	(162,246)	3,446,752	98.89% 2030
2031	3,420,901	2,413,883	2,655,271	(765,630)	(1,688,214,539)	(92,593,061)	(185,186)	3,420,901	99.25% 2031
2032	3,390,742	2,304,161	2,534,577	(856,165)	(1,887,844,324)	(103,542,104)	(207,084)	3,390,742	99.12% 2032
2032 Pct 202	93.69%	70%							
% decline	6.31%								

2,304,161 30% decline in allowances 2023-2032  
109,722 Yearly decline in allowances

RI Tax Loss	Emissions budget Metric Tons of CO2	Total TCI Gallons	EIA Forecast Gallons	Fuel Shortfall	Tax Revenue Shortfall @ 35 cpg
2023	3,291,658	398,083,436	437,682,000	(39,598,564)	(\$13,859,497)
2024	3,181,936	384,813,988	437,160,950	(52,346,962)	(\$18,321,437)
2025	3,072,214	371,544,540	435,076,750	(63,532,210)	(\$22,236,273)
2026	2,962,492	358,275,093	432,471,500	(74,196,407)	(\$25,968,743)
2027	2,852,770	345,005,645	428,824,150	(83,818,505)	(\$29,336,477)
2028	2,743,048	331,736,197	425,176,800	(93,440,603)	(\$32,704,211)
2029	2,633,326	318,466,749	421,529,450	(103,062,701)	(\$36,071,945)
2030	2,523,604	305,197,301	416,840,000	(111,642,699)	(\$39,074,945)
2031	2,413,883	291,927,853	413,713,700	(121,785,847)	(\$42,625,046)
2032	2,304,161	278,658,405	410,066,350	(131,407,945)	(\$45,992,781)
		70%	93.69%		(\$306,191,355)

TCI Auction Revenue	60% Remaining for Transportation	Less Lost Tax Revenue
\$30,447,837	\$18,268,702	\$4,409,205
\$32,471,658	\$19,482,995	\$1,161,558
\$34,608,492	\$20,765,095	(\$1,471,178)
\$36,853,403	\$22,112,042	(\$3,856,701)
\$39,168,536	\$23,501,121	(\$5,835,355)
\$41,598,328	\$24,958,997	(\$7,745,214)
\$44,121,384	\$26,472,830	(\$9,599,115)
\$46,711,919	\$28,027,151	(\$11,047,793)
\$47,867,291	\$28,720,374	(\$13,904,672)
\$48,917,330	\$29,350,398	(\$16,642,383)
	\$241,659,705	(\$64,531,649)

DC	<u>Metric Tons of CO2e from Gas and Diesel Sales</u>	<u>Emission Budget - Metric Tons CO2e</u>	<u>10% CCR</u>	<u>Allowances over/under 2019 demand mtons</u>	<u>Lbs of CO2 @ 2205 lbs/mton Shortfall</u>	<u>Shortfall of gallons @ 18.05 lbs of CO2 / gallon of e10/diesel</u>	<u>Eliminated Demand for LDV @ 500 gall./year per LDV</u>	Backup lines 50-59		
2019	1,067,958							1,067,958		
2023	1,067,958	877,715	965,487	(102,472)	(225,950,081)	(12,517,004)	(25,034)	1,067,958		2023
2024	1,066,687	848,458	933,304	(133,383)	(294,109,948)	(16,292,871)	(32,586)	1,066,687	99.88%	2024
2025	1,061,601	819,201	901,121	(160,481)	(353,859,645)	(19,602,837)	(39,206)	1,061,601	99.52%	2025
2026	1,055,244	789,944	868,938	(186,307)	(410,805,952)	(22,757,504)	(45,515)	1,055,244	99.40%	2026
2027	1,046,345	760,686	836,755	(209,590)	(462,145,478)	(25,601,570)	(51,203)	1,046,345	99.16%	2027
2028	1,037,445	731,429	804,572	(232,873)	(513,485,004)	(28,445,637)	(56,891)	1,037,445	99.15%	2028
2029	1,028,545	702,172	772,389	(256,156)	(564,824,529)	(31,289,703)	(62,579)	1,028,545	99.14%	2029
2030	1,017,103	672,915	740,206	(276,897)	(610,557,275)	(33,823,170)	(67,646)	1,017,103	98.89%	2030
2031	1,009,475	643,658	708,023	(301,451)	(664,700,191)	(36,822,536)	(73,645)	1,009,475	99.25%	2031
2032	1,000,575	614,401	675,841	(324,735)	(716,039,717)	(39,666,603)	(79,333)	1,000,575	99.12%	2032
2032 Pct 202:	93.69%	70%								
% decline	6.31%									

614,401 30% decline in allowances 2023-2032  
29,257 Yearly decline in allowances

Backup

**COLUMN B**

**2019 Gasoline and Diesel Consumption, Transportation**

Source: EIA <https://www.eia.gov/state/seds/seds-data-fuel.php?sid=CT#Petroleum>

	Gasoline	Diesel	Total
CT Barrels	34,144,000	6,885,000	41,029,000
CT Gallons	1,434,048,000	289,170,000	1,723,218,000
Lbs CO2/Gall	17.42	22.51	
CT Lbs CO2 Total	24,986,723,288	6,510,098,669	31,496,821,956
Weighted Avg CO2/Gall	79.33%	20.67%	18.28

	Gasoline	Diesel	Metric Tons/gall CO2
Per EIA Model rule:	0.00878	0.01021	
Page 68/153	19.36	22.51	Lbs/gall CO2
E10 gas	17.42		

Metric tons CO2	11,331,847	2,952,426	14,284,273
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	Gasoline	Diesel	Total
MA Barrels	63,066,000	11,135,000	74,201,000
MA Gallons	2,648,772,000	467,670,000	3,116,442,000
Lbs CO2/Gall	17.42	22.51	
CT Lbs CO2 Total	46,151,964,939	10,528,678,094	56,680,643,032
Weighted Avg CO2/Gall			18.19

	TCI CCR Cap	TCI ECR Floor	Average
2023	\$12.00	\$6.50	\$9.25
2024	\$13.43	\$6.98	\$10.21
2025	\$15.02	\$7.51	\$11.27
2026	\$16.81	\$8.07	\$12.44
2027	\$18.80	\$8.66	\$13.73
2028	\$21.04	\$9.29	\$15.17
2029	\$23.54	\$9.97	\$16.76
2030	\$26.34	\$10.68	\$18.51
2031	\$28.19	\$11.47	\$19.83
2032	\$30.16	\$12.30	\$21.23

Metric tons CO2	20,930,596	4,774,911	25,705,507
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	Gasoline	Diesel	Total
RI Barrels	8,765,000	1,656,000	10,421,000
RI Gallons	368,130,000	69,552,000	437,682,000
Lbs CO2/Gall	17.42	22.51	
CT Lbs CO2 Total	6,414,263,988	1,565,827,654	7,980,091,642
Weighted Avg CO2/Gall			18.23

Metric tons CO2	2,908,963	710,126	3,619,089
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	Gasoline	Diesel	Total
DC Barrels	2,723,000	383,000	3,106,000
DC Gallons	114,366,000	16,086,000	130,452,000
Lbs CO2/Gall	17.42	22.51	
CT Lbs CO2 Total	1,992,702,891	362,144,922	2,354,847,813
Weighted Avg CO2/Gall			18.05

4 state weighted average CO2 lbs/gall  
18.22

Metric tons CO2	903,720	164,238	1,067,958
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**2023 - 2032 New England Gasoline& Diesel Consumption**

Source EIA: <https://www.eia.gov/outlooks/aeo/data/browser/#/?id=2-AEO2021&region=1-1&cases=ref2021&start=2019&end=2050&f=A&linechart=&map=ref2021-d113020a.4-2-AEO2021.1-1&ctype=linechart&sourcekey=0>

	Gasoline	Diesel	Total	% change	In Quadrillions of BTUs	
					Total Gas	Diesel
2023	0.686	0.154	0.840			
2024	0.683	0.156	0.839	99.88%	99.56%	101.30%
2025	0.678	0.157	0.835	99.52%	99.27%	100.64%
2026	0.673	0.157	0.830	99.40%	99.26%	100.00%
2027	0.667	0.156	0.823	99.16%	99.11%	99.36%
2028	0.660	0.156	0.816	99.15%	98.95%	100.00%
2029	0.654	0.155	0.809	99.14%	99.09%	99.36%
2030	0.647	0.153	0.800	98.89%	98.93%	98.71%

2031	0.642	0.152	0.794	99.25%	99.23%	99.35%
2032	0.636	0.151	0.787	99.12%	99.07%	99.34%
				93.69%	92.71%	98.05%
				6.31%	7.29%	1.95%

Change 2023 to 2032

Column B starts with initial metric ton consumption in green boxes above in 2023 for each state, then declining per the schedule above through 2032

**COLUMN C**

Source: TCI-P Program Design Elements Page 2

**COLUMN D**

Source: TCI-P Program Design Elements Page 2  
 Equals Column C times 1.1

**COLUMN E**

Equals Column D minus Column B

**COLUMN F**

Equals Column E times 2205 lbs per metric ton

**COLUMN G**

Equals Column F divided by the weighted average of diesel and gasoline for each state based on their consumption in 2019 (from blue highlighted boxes above)

**COLUMN H**

Equals Column G divided by 500 gallons annual consumption per LDV. A constant number is used as increased mileage efficiency is offset by more miles driven due to higher economic activity  
 Per EIA 2021 Annual Energy Outlook Narrative Page 5:  
*Efficiency improvements fully offset the consumption growth from LDV travel growth through 2043 and partially offset the consumption growth from heavy-duty vehicle travel growth through 2036.  
 Continued growth of on-road travel increases energy use later in the projection period because the travel demand for both light- and heavy-duty vehicles outpaces fuel economy improvements.*