

D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	SIDI: FRFG2, ETBE	SIDI: FRFG2, EtOH	SIDI: CARFG2, ETBE	SIDI: CARFG2, EtOH	Dedi. MeOH SIDI: NG	Dedi. MeOH SIDI: M90, FG	Dedi. MeOH SIDI: M90, LFG	Dedi. EtOH SIDI: E90, corn	Dedi. EtOH SIDI: E90, WB	Dedi. EtOH SIDI: E90, HB	GI SIDI HEV: FRFG2, MTBE
Total energy	-20.0%	-20.0%	-20.0%	-20.0%	-6.7%	-2.3%	-16.1%	-3.2%	38.9%	27.1%	-47.4%
Fossil fuels	-20.0%	-20.0%	-19.0%	-19.3%	-6.2%	-54.4%	-68.1%	-57.9%	-85.1%	-81.7%	-47.4%
Petroleum	-20.0%	-20.0%	-17.2%	-19.2%	-82.1%	-82.1%	-82.6%	-82.5%	-80.3%	-82.1%	-47.4%
VOC: Total	-13.1%	-10.1%	-13.1%	-12.6%	-28.0%	-173.2%	-48.9%	78.4%	2.2%	-3.3%	-30.3%
VOC: Urban	-8.0%	-3.8%	-8.0%	-7.9%	-18.7%	-18.7%	-23.1%	-17.0%	-17.0%	-17.1%	-32.9%
CO: Total	-1.4%	-1.2%	-1.4%	-1.2%	0.5%	-2.3%	-18.4%	0.8%	11.9%	9.4%	-3.1%
CO: Urban	-0.1%	-0.1%	-0.1%	-0.1%	-0.3%	-0.3%	-6.6%	-0.1%	-0.1%	-0.1%	-0.2%
NOx: Total	-17.8%	-17.4%	-17.8%	-17.4%	-23.5%	-87.3%	-41.7%	125.4%	196.8%	201.6%	-41.1%
NOx: Urban	-7.5%	-6.5%	-7.5%	-6.5%	-22.5%	-22.5%	-56.2%	0.8%	-4.0%	-2.6%	-15.2%
PM10: Total	-9.8%	-6.7%	-9.8%	-6.7%	-27.6%	-39.6%	-280.6%	629.4%	123.8%	105.6%	-15.8%
PM10: Urban	11.2%	11.6%	11.2%	11.6%	-2.8%	-2.8%	-215.8%	-0.4%	-0.7%	-0.6%	4.3%
SOx: Total	-20.0%	-20.0%	-20.0%	-20.0%	-76.3%	-76.7%	21.2%	111.8%	-91.7%	-72.1%	-47.4%
SOx: Urban	-20.0%	-20.0%	-20.5%	-20.5%	-80.6%	-80.6%	-218.1%	-85.0%	-85.7%	-85.3%	-47.4%
CH4	-18.5%	-18.1%	-18.5%	-18.1%	-34.9%	-39.3%	-384.0%	-40.1%	-71.3%	-66.3%	-43.7%
N2O	-8.5%	-5.8%	-8.5%	-5.8%	-1.9%	-4.5%	-0.9%	469.5%	156.4%	512.4%	-2.8%
CO2	-20.0%	-19.7%	-20.0%	-19.8%	-24.7%	-82.5%	-143.7%	-56.0%	-106.4%	-90.3%	-47.4%
GHGs	-19.7%	-19.4%	-19.7%	-19.4%	-24.7%	-80.0%	-149.0%	-47.8%	-101.5%	-80.7%	-46.6%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	GI SIDI HEV: FRFG2, ETBE	GI SIDI HEV: FRFG2, EtOH	GI SI HEV: CNG	GI SI HEV: LNG	GI SI HEV: LPG, crude	GI SI HEV: LPG, NG	GI SIDI HEV: M90, NG	GI SIDI HEV: M90, FG	GI SIDI HEV: M90 LFG	GI SIDI HEV: E90, corn	GI SIDI HEV: E90, WB
Total energy	-47.4%	-47.4%	-43.5%	-41.7%	-46.2%	-46.7%	-37.0%	-34.1%	-43.2%	-36.3%	-8.6%
Fossil fuels	-47.4%	-47.4%	-44.1%	-41.4%	-46.2%	-46.6%	-36.7%	-68.4%	-77.4%	-72.3%	-90.2%
Petroleum	-47.4%	-47.4%	-99.6%	-97.5%	-36.1%	-98.8%	-87.3%	-87.3%	-87.7%	-88.5%	-87.1%
VOC: Total	-32.5%	-28.9%	-68.2%	-63.2%	-56.9%	-62.7%	-38.6%	-134.1%	-52.3%	29.2%	-20.9%
VOC: Urban	-33.0%	-24.7%	-57.8%	-59.1%	-52.1%	-49.1%	-28.5%	-28.5%	-31.4%	-27.4%	-27.4%
CO: Total	-3.3%	-2.8%	-22.0%	-20.6%	-22.4%	-22.9%	-1.6%	-3.5%	-14.1%	-1.7%	5.5%
CO: Urban	-0.2%	-0.2%	-19.6%	-20.2%	-20.1%	-20.1%	-0.3%	-0.3%	-4.5%	-0.2%	-0.2%
NOx: Total	-42.3%	-41.2%	-16.1%	10.5%	-52.3%	-57.6%	-39.4%	-81.4%	-51.4%	52.8%	99.8%
NOx: Urban	-17.8%	-15.3%	65.6%	-21.0%	-13.6%	-14.3%	-25.8%	-25.8%	-48.0%	-10.4%	-13.6%
PM10: Total	-30.7%	-25.6%	-38.1%	-35.2%	-35.0%	-41.2%	-32.0%	-39.8%	-198.4%	397.1%	64.5%
PM10: Urban	3.7%	4.3%	-16.6%	-17.8%	-17.0%	-17.0%	-7.9%	-7.9%	-147.9%	-6.3%	-6.4%
SOx: Total	-47.4%	-47.4%	-59.3%	-85.6%	-66.6%	-81.7%	-76.8%	-77.1%	-12.7%	39.4%	-94.5%
SOx: Urban	-47.4%	-47.4%	-88.0%	-98.9%	-94.4%	-94.5%	-87.2%	-87.2%	-177.7%	-90.1%	-90.6%
CH4	-43.8%	-43.0%	23.6%	23.4%	-51.6%	-47.2%	-52.9%	-55.8%	-282.6%	-56.7%	-77.2%
N2O	-20.2%	-13.8%	-49.9%	-49.2%	-3.9%	-4.0%	-2.8%	-4.5%	-2.1%	306.9%	100.9%
CO2	-47.4%	-47.2%	-54.9%	-54.9%	-49.1%	-50.1%	-48.8%	-86.9%	-127.1%	-70.8%	-104.0%
GHGs	-46.6%	-46.4%	-52.4%	-52.4%	-48.5%	-49.3%	-48.3%	-84.7%	-130.1%	-64.8%	-100.2%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	GI SIDI HEV: E90, HB	GC SIDI HEV: FRFG2, MTBE, US mix	GC SIDI HEV: FRFG2, ETBE, US mix	GC SIDI HEV: FRFG2, EtOH, US mix	GC SIDI HEV: FRFG2, MTBE, CA mix	GC SIDI HEV: FRFG2, ETBE, CA mix	GC SIDI HEV: FRFG2, EtOH, CA mix	GC SI HEV: CNG, US mix	GC SI HEV: CNG, CA mix	GC SI HEV: LNG, US mix	GC SI HEV: LNG, CA mix
Total energy	-16.4%	-43.7%	-43.8%	-43.7%	-43.9%	-44.0%	-43.9%	-40.8%	-41.0%	-39.5%	-39.7%
Fossil fuels	-87.9%	-48.2%	-47.1%	-47.3%	-55.5%	-54.8%	-54.9%	-45.7%	-53.0%	-43.8%	-51.1%
Petroleum	-88.2%	-60.7%	-60.4%	-61.4%	-61.0%	-60.7%	-61.7%	-99.4%	-99.6%	-97.8%	-98.1%
VOC: Total	-24.5%	-47.1%	-49.0%	-46.3%	-49.6%	-51.2%	-48.7%	-73.9%	-76.4%	-70.4%	-72.9%
VOC: Urban	-27.5%	-44.7%	-44.8%	-41.8%	-44.7%	-44.8%	-41.7%	-70.3%	-70.3%	-71.2%	-71.2%
CO: Total	3.9%	-31.2%	-31.3%	-30.9%	-31.5%	-31.7%	-31.3%	-44.4%	-44.7%	-43.3%	-43.7%
CO: Urban	-0.2%	-30.1%	-30.1%	-30.1%	-30.1%	-30.1%	-30.1%	-43.7%	-43.7%	-44.1%	-44.1%
NOx: Total	103.0%	5.9%	-6.9%	4.3%	-38.1%	-42.6%	-38.7%	24.0%	-20.0%	43.2%	-0.8%
NOx: Urban	-12.7%	-33.3%	-35.6%	-33.3%	-31.3%	-33.8%	-31.4%	25.1%	27.0%	-37.4%	-35.5%
PM10: Total	52.5%	-2.4%	-30.6%	-21.0%	-21.9%	-40.9%	-34.5%	-18.2%	-37.7%	-16.1%	-35.6%
PM10: Urban	-6.4%	-6.7%	-7.3%	-6.7%	-6.5%	-7.1%	-6.5%	-21.3%	-21.1%	-22.1%	-22.0%
SOx: Total	-81.7%	81.0%	53.4%	68.0%	-40.0%	-44.3%	-42.1%	72.6%	-48.5%	53.6%	-67.5%
SOx: Urban	-90.3%	-59.2%	-59.2%	-59.2%	-61.3%	-61.4%	-61.4%	-88.1%	-90.3%	-96.0%	-98.2%
CH4	-73.9%	-43.9%	-44.1%	-40.1%	-50.4%	-50.5%	-47.9%	4.1%	-2.4%	4.0%	-2.5%
N2O	335.1%	-27.7%	-41.1%	-36.2%	-29.9%	-42.5%	-37.9%	-60.7%	-62.9%	-60.2%	-62.4%
CO2	-93.4%	-46.1%	-46.5%	-45.8%	-56.0%	-56.2%	-55.8%	-51.4%	-61.3%	-51.4%	-61.3%
GHGs	-86.5%	-45.7%	-46.3%	-45.5%	-55.5%	-55.7%	-55.3%	-49.8%	-59.5%	-49.8%	-59.5%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	GC SI HEV: LPG, crude, US mix	GC SI HEV: LPG, NG, US mix	GC SI HEV: LPG, crude, CA mix	GC SI HEV: LPG, NG, CA mix	GC SIDI HEV: M90, NG, US mix	GC SIDI HEV: M90, FG, US mix	GC SIDI HEV: M90, LFG, US mix	GC SIDI HEV: M90, NG, CA mix	GC SIDI HEV: M90, FG, CA mix	GC SIDI HEV: M90, LFG, CA mix	GC SIDI HEV: E90, corn, US mix
Total energy	-42.7%	-43.1%	-42.9%	-43.3%	-36.2%	-34.1%	-40.6%	-36.4%	-34.3%	-40.8%	-35.7%
Fossil fuels	-47.2%	-47.5%	-54.6%	-54.8%	-40.5%	-63.3%	-69.8%	-47.8%	-70.7%	-77.1%	-66.1%
Petroleum	-53.6%	-98.8%	-53.8%	-99.0%	-90.5%	-90.5%	-90.7%	-90.8%	-90.8%	-91.0%	-91.3%
VOC: Total	-65.9%	-70.0%	-68.4%	-72.5%	-53.0%	-121.7%	-62.9%	-55.5%	-124.2%	-65.4%	-4.3%
VOC: Urban	-66.3%	-64.1%	-66.2%	-64.1%	-49.8%	-49.8%	-51.9%	-49.8%	-49.8%	-51.9%	-49.0%
CO: Total	-44.7%	-45.0%	-45.0%	-45.4%	-30.1%	-31.4%	-39.0%	-30.4%	-31.8%	-39.4%	-30.2%
CO: Urban	-44.0%	-44.0%	-44.0%	-44.0%	-30.2%	-30.2%	-33.2%	-30.2%	-30.2%	-33.2%	-30.1%
NOx: Total	-2.1%	-5.9%	-46.1%	-49.9%	7.1%	-23.1%	-1.5%	-36.9%	-67.1%	-45.5%	73.4%
NOx: Urban	-32.0%	-32.5%	-30.1%	-30.6%	-40.8%	-40.8%	-56.8%	-38.9%	-38.9%	-54.9%	-29.8%
PM10: Total	-16.0%	-20.4%	-35.5%	-39.9%	-13.9%	-19.6%	-133.6%	-33.4%	-39.1%	-153.1%	294.6%
PM10: Urban	-21.6%	-21.6%	-21.4%	-21.4%	-15.2%	-15.2%	-115.9%	-15.1%	-15.1%	-115.8%	-14.1%
SOx: Total	67.3%	56.4%	-53.8%	-64.7%	59.9%	59.7%	106.0%	-61.2%	-61.4%	-15.1%	143.4%
SOx: Urban	-92.7%	-92.8%	-94.9%	-95.0%	-87.6%	-87.6%	-152.6%	-89.8%	-89.8%	-154.8%	-89.7%
CH4	-49.5%	-46.4%	-56.0%	-52.8%	-50.5%	-52.5%	-215.6%	-56.9%	-59.0%	-222.0%	-53.3%
N2O	-28.5%	-28.5%	-30.7%	-30.7%	-27.7%	-28.9%	-27.2%	-29.9%	-31.1%	-29.4%	129.0%
CO2	-47.2%	-47.9%	-57.1%	-57.8%	-47.1%	-74.4%	-103.4%	-57.1%	-84.4%	-113.3%	-62.9%
GHGs	-47.0%	-47.6%	-56.7%	-57.3%	-46.9%	-73.1%	-105.7%	-56.7%	-82.8%	-115.4%	-59.8%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	GC SIDI HEV: E90, WB, US mix	GC SIDI HEV: E90, HB, US mix	GC SIDI HEV: E90, corn, CA mix	GC SIDI HEV: E90, WB, CA mix	GC SIDI HEV: E90, HB, CA mix	CIDI: RFD	CIDI: DME, NG	CIDI: DME, FG	CIDI: FT50, NG	CIDI: FT50, FG	CIDI: BD20
Total energy	-15.8%	-21.4%	-35.9%	-16.0%	-21.6%	-35.1%	-17.7%	-14.4%	-21.3%	-13.2%	-31.4%
Fossil fuels	-79.0%	-77.4%	-73.4%	-86.3%	-84.7%	-35.0%	-17.2%	-67.4%	-21.1%	-38.6%	-31.6%
Petroleum	-90.3%	-91.1%	-91.6%	-90.6%	-91.4%	-25.0%	-97.9%	-97.9%	-59.9%	-59.9%	-36.7%
VOC: Total	-40.3%	-42.9%	-6.8%	-42.8%	-45.4%	-49.0%	-65.4%	-204.5%	-55.5%	-136.0%	-20.9%
VOC: Urban	-49.0%	-49.0%	-49.0%	-49.0%	-49.0%	-44.1%	-62.9%	-62.9%	-46.2%	-46.2%	-41.5%
CO: Total	-24.9%	-26.1%	-30.5%	-25.3%	-26.5%	90.2%	92.7%	89.3%	90.6%	89.3%	93.1%
CO: Urban	-30.1%	-30.1%	-30.1%	-30.1%	-30.1%	99.4%	99.3%	99.3%	99.4%	99.4%	100.3%
NOx: Total	107.2%	109.5%	29.4%	63.2%	65.5%	-2.2%	-1.0%	-70.7%	-10.9%	-44.3%	41.7%
NOx: Urban	-32.1%	-31.4%	-27.9%	-30.2%	-29.5%	171.6%	158.7%	158.7%	165.6%	165.6%	215.0%
PM10: Total	55.4%	46.8%	275.1%	35.9%	27.3%	2.5%	-27.9%	-42.1%	-17.8%	-23.0%	9.3%
PM10: Urban	-14.2%	-14.2%	-13.9%	-14.0%	-14.0%	29.1%	8.9%	8.9%	16.0%	16.0%	27.8%
SOx: Total	47.2%	56.4%	22.3%	-73.9%	-64.7%	-34.1%	-82.2%	-83.3%	-58.4%	-58.0%	-32.6%
SOx: Urban	-90.0%	-89.8%	-91.9%	-92.2%	-92.0%	6.8%	-95.7%	-95.7%	-42.2%	-42.2%	-9.6%
CH4	-68.1%	-65.7%	-59.8%	-74.5%	-72.1%	-50.7%	-48.9%	-48.8%	-50.9%	-50.5%	-52.8%
N2O	-19.1%	149.3%	126.9%	-21.2%	147.1%	-16.2%	-18.7%	-22.4%	-19.1%	-19.7%	-6.6%
CO2	-86.8%	-79.2%	-72.9%	-96.7%	-89.1%	-32.3%	-35.7%	-94.6%	-31.6%	-61.2%	-40.0%
GHGs	-85.2%	-75.4%	-69.5%	-94.9%	-85.1%	-32.6%	-35.9%	-92.2%	-32.0%	-60.3%	-39.9%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	GI CIDI HEV: RFD	GI CIDI HEV: DME, NG	GI CIDI HEV: DME, FG	GI CIDI HEV: FT50, NG	GI CIDI HEV: FT50, FG	GI CIDI HEV: BD20	GC CIDI HEV: RFD, US mix	GC CIDI HEV: RFD CA mix	GC CIDI HEV: DME, NG, US mix	GC CIDI HEV: DME, FG, US mix	GC CIDI HEV: DME, NG, CA mix
Total energy	-57.7%	-46.3%	-44.2%	-48.7%	-43.3%	-55.3%	-53.3%	-53.5%	-42.2%	-40.7%	-42.4%
Fossil fuels	-57.6%	-46.0%	-78.7%	-48.5%	-59.9%	-55.4%	-57.8%	-65.2%	-46.5%	-70.5%	-53.9%
Petroleum	-51.1%	-98.6%	-98.6%	-73.8%	-73.8%	-58.7%	-67.1%	-67.3%	-98.6%	-98.6%	-98.9%
VOC: Total	-55.0%	-69.2%	-159.9%	-59.2%	-111.8%	-36.6%	-65.2%	-67.7%	-74.5%	-140.9%	-77.0%
VOC: Urban	-30.7%	-42.6%	-42.6%	-47.0%	-47.0%	-43.9%	-62.0%	-61.9%	-74.2%	-74.2%	-74.2%
CO: Total	89.0%	90.6%	88.4%	89.2%	88.4%	90.9%	33.2%	32.8%	34.5%	32.9%	34.2%
CO: Urban	33.3%	33.3%	33.3%	99.3%	99.3%	99.9%	39.5%	39.5%	39.5%	39.5%	39.5%
NOx: Total	-18.9%	-18.1%	-63.5%	-24.5%	-46.3%	9.8%	19.5%	-24.5%	22.2%	-11.1%	-21.8%
NOx: Urban	22.1%	21.0%	21.0%	161.7%	161.7%	193.9%	85.4%	87.3%	87.2%	87.2%	89.2%
PM10: Total	-6.2%	-30.0%	-39.2%	-22.0%	-25.5%	-3.1%	3.3%	-16.2%	-12.6%	-19.4%	-32.1%
PM10: Urban	24.6%	7.6%	7.6%	15.5%	15.5%	25.4%	9.2%	9.4%	-3.6%	-3.6%	-3.4%
SOx: Total	-57.0%	-88.4%	-89.1%	-72.9%	-72.6%	-56.1%	71.8%	-49.3%	51.7%	51.2%	-69.4%
SOx: Urban	-4.7%	-14.9%	-14.9%	-62.3%	-62.3%	-41.1%	-52.7%	-54.9%	-94.7%	-94.7%	-96.9%
CH4	-67.3%	-65.6%	-65.6%	-67.5%	-67.2%	-68.7%	-62.5%	-68.9%	-59.2%	-59.1%	-65.6%
N2O	-17.3%	-18.9%	-21.3%	-19.2%	-19.6%	-11.0%	-37.9%	-40.1%	-39.0%	-40.8%	-41.2%
CO2	-55.8%	-58.1%	-96.5%	-55.4%	-74.7%	-60.8%	-54.5%	-64.5%	-53.2%	-81.3%	-63.2%
GHGs	-55.6%	-57.8%	-94.5%	-55.2%	-73.7%	-60.3%	-54.5%	-64.2%	-53.2%	-80.1%	-62.9%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	GC CIDI HEV: DME, FG, CA mix	GC CIDI HEV: FT50, NG, US mix	GC CIDI HEV: FT50, FG, US mix	GC CIDI HEV: FT50, NG, CA mix	GC CIDI HEV: FT50, FG, CA mix	GC CIDI HEV: BD20, US mix	GC CIDI HEV: BD20, CA mix	EV: US mix	EV: NE US mix	EV: CA mix	H2 FCV: NG, C. gaseous
Total energy	-40.9%	-43.9%	-40.1%	-44.1%	-40.3%	-48.8%	-49.0%	-38.4%	-39.8%	-39.0%	-59.7%
Fossil fuels	-77.8%	-48.3%	-56.7%	-64.0%	-51.8%	-53.4%	-60.7%	-53.4%	-55.5%	-77.9%	-60.3%
Petroleum	-98.9%	-80.5%	-80.5%	-80.7%	-80.7%	-69.4%	-69.7%	-98.7%	-98.3%	-99.6%	-99.7%
VOC: Total	-143.4%	-67.5%	-106.1%	-70.0%	-108.6%	-51.0%	-53.5%	-87.7%	-91.7%	-96.1%	-95.1%
VOC: Urban	-74.2%	-62.7%	-62.7%	-62.7%	-62.7%	-60.5%	-60.5%	-99.7%	-99.3%	-99.6%	-97.8%
CO: Total	32.5%	33.5%	32.9%	33.2%	32.6%	34.7%	34.4%	-96.8%	-96.5%	-98.0%	-96.2%
CO: Urban	39.5%	39.6%	39.6%	39.6%	39.6%	40.0%	40.0%	-99.9%	-99.7%	-99.8%	-99.3%
NOx: Total	-55.1%	17.4%	1.5%	-26.6%	-42.5%	42.5%	-1.5%	112.7%	47.5%	-34.0%	-38.9%
NOx: Urban	89.2%	90.5%	90.5%	92.5%	92.5%	114.1%	116.0%	-76.4%	-51.4%	-69.9%	-6.1%
PM10: Total	-38.9%	-6.9%	-9.4%	-26.5%	-29.0%	6.8%	-12.7%	27.5%	-33.5%	-37.6%	-50.3%
PM10: Urban	-3.4%	1.1%	1.1%	1.3%	1.3%	8.2%	8.4%	-32.5%	-29.9%	-31.9%	-32.2%
SOx: Total	-69.9%	63.1%	63.3%	-58.0%	-57.8%	75.4%	-45.7%	377.4%	124.5%	-26.2%	-66.0%
SOx: Urban	-96.9%	-69.2%	-69.2%	-71.4%	-71.4%	-53.6%	-55.8%	-89.3%	-78.5%	-96.5%	-99.0%
CH4	-65.6%	-60.5%	-60.3%	-66.9%	-66.7%	-61.4%	-67.8%	-47.5%	-32.7%	-69.0%	-61.7%
N2O	-43.0%	-39.2%	-39.5%	-41.4%	-41.7%	-33.3%	-35.4%	-86.0%	-90.3%	-93.3%	-97.7%
CO2	-91.3%	-51.3%	-65.4%	-61.2%	-75.4%	-55.2%	-65.2%	-46.3%	-56.4%	-79.4%	-68.6%
GHGs	-89.8%	-51.4%	-64.9%	-61.1%	-74.6%	-55.1%	-64.8%	-46.9%	-56.4%	-79.3%	-68.8%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	H2 FCV: NG, station gaseous	H2 FCV: solar, gas	H2 FCV: solar, liquid	H2 FCV: NG, liquid	FCV: MeOH, NG	FCV: MeOH, FG
Total energy	-53.2%	-65.5%	-71.8%	-58.8%	-52.3%	-49.7%
Fossil fuels	-52.9%	-93.1%	-98.3%	-58.5%	-52.0%	-80.3%
Petroleum	-99.7%	-99.9%	-98.1%	-97.8%	-98.6%	-98.6%
VOC: Total	-93.5%	-95.1%	-90.9%	-88.0%	-73.3%	-158.4%
VOC: Urban	-93.5%	-97.0%	-97.3%	-97.0%	-74.6%	-74.6%
CO: Total	-94.7%	-97.9%	-98.4%	-95.7%	-77.4%	-79.1%
CO: Urban	-96.2%	-99.1%	-99.7%	-99.7%	-80.0%	-80.0%
NOx: Total	-27.7%	-33.0%	-69.8%	-42.1%	-62.5%	-99.9%
NOx: Urban	137.0%	31.5%	-69.9%	-66.8%	-83.5%	-83.5%
PM10: Total	-49.2%	-49.2%	-45.9%	-40.1%	-52.9%	-59.9%
PM10: Urban	-23.5%	-31.2%	-30.3%	-30.1%	-34.6%	-34.6%
SOx: Total	-91.7%	-63.5%	-97.5%	-90.6%	-87.8%	-88.0%
SOx: Urban	-99.4%	-98.8%	-97.2%	-97.1%	-97.0%	-97.0%
CH4	-45.7%	-86.6%	-98.7%	-62.3%	-67.7%	-70.3%
N2O	-95.7%	-97.5%	-99.2%	-97.2%	-78.9%	-80.5%
CO2	-63.7%	-93.4%	-98.3%	-67.7%	-62.8%	-96.7%
GHGs	-63.6%	-93.3%	-98.3%	-68.0%	-63.2%	-95.6%



D-II.2 Light-Duty Truck 1 (Cont.)

Parameter	FCV: MeOH, LFG	FCV: RFG	EtOH FCV: corn	EtOH FCV: WB	EtOH FCV: HB	NG FCV: CNG
Total energy	-57.8%	-50.0%	-37.8%	-7.2%	-15.7%	-52.0%
Fossil fuels	-88.3%	-50.0%	-77.5%	-97.4%	-94.9%	-52.5%
Petroleum	-98.9%	-50.0%	-96.5%	-94.9%	-96.2%	-99.7%
VOC: Total	-85.5%	-52.5%	5.3%	-50.2%	-54.2%	-88.7%
VOC: Urban	-77.2%	-53.9%	-72.6%	-72.6%	-72.7%	-88.1%
CO: Total	-88.5%	-78.0%	-76.5%	-68.4%	-70.2%	-78.5%
CO: Urban	-83.8%	-79.9%	-79.8%	-79.8%	-79.8%	-79.5%
NOx: Total	-73.2%	-54.0%	49.9%	101.8%	105.3%	-37.3%
NOx: Urban	-103.2%	-70.4%	-53.2%	-58.7%	-57.1%	-3.4%
PM10: Total	-201.1%	-39.6%	424.4%	56.5%	43.3%	-49.5%
PM10: Urban	-159.4%	-33.0%	-31.5%	-31.7%	-31.6%	-32.5%
SOx: Total	-30.6%	-54.1%	45.9%	-102.2%	-87.9%	-66.2%
SOx: Urban	-177.6%	-94.9%	-95.8%	-96.6%	-96.1%	-99.1%
CH4	-272.3%	-52.3%	-70.9%	-93.5%	-89.9%	-12.2%
N2O	-78.3%	-78.2%	264.2%	36.4%	295.4%	-78.6%
CO2	-132.5%	-50.0%	-76.5%	-113.2%	-101.5%	-61.6%
GHGs	-136.1%	-50.5%	-71.3%	-110.4%	-95.3%	-60.3%



D-II Long-Term Technologies

D-II.3 Light-Duty Truck 2

Parameter	Dedi. CNGV	Dedi. LNGV	Dedi. LPGV: crude	Dedi. LPGV: NG	Dedi. MeOHV: M90, NG	Dedi. MeOHV: M90, FG	Dedi. MeOHV: M90, LFG	Dedi. EtOHV: E90, corn	Dedi. EtOHV: E90, WB	Dedi. EtOHV: E90, HB	SIDI: FRFG2, MTBE
Total energy	-4.0%	-1.0%	-12.9%	-13.8%	14.0%	19.3%	2.9%	15.1%	65.0%	51.1%	-20.0%
Fossil fuels	-5.0%	-0.4%	-12.9%	-13.5%	14.6%	-42.8%	-59.2%	-47.9%	-81.5%	-77.3%	-20.0%
Petroleum	-99.4%	-95.8%	3.4%	-98.1%	-77.1%	-77.1%	-77.7%	-80.6%	-78.3%	-80.2%	-20.0%
VOC: Total	-66.0%	-58.0%	-47.5%	-56.5%	-16.5%	-182.2%	-40.3%	89.4%	7.8%	1.9%	-11.7%
VOC: Urban	-59.3%	-61.4%	-48.6%	-44.0%	-12.9%	-12.9%	-17.8%	-10.4%	-10.4%	-10.5%	-7.7%
CO: Total	-19.8%	-18.3%	-20.4%	-20.9%	1.5%	-0.6%	-12.1%	1.8%	9.7%	7.9%	-0.8%
CO: Urban	-19.5%	-20.1%	-19.9%	-20.0%	-0.2%	-0.2%	-4.6%	0.0%	0.0%	0.0%	0.0%
NOx: Total	25.8%	60.7%	-23.9%	-30.5%	-0.9%	-59.6%	-17.7%	125.3%	190.1%	194.5%	-13.4%
NOx: Urban	53.6%	-5.3%	-0.8%	-1.3%	-8.3%	-8.3%	-24.3%	3.9%	1.5%	2.2%	-2.6%
PM10: Total	-42.4%	-37.8%	-38.7%	-47.9%	-29.9%	-43.1%	-309.5%	462.9%	68.0%	53.8%	4.3%
PM10: Urban	-36.9%	-38.6%	-37.6%	-37.7%	-21.2%	-21.2%	-246.2%	-18.4%	-18.6%	-18.5%	18.1%
SOx: Total	-30.8%	-75.5%	-45.9%	-70.4%	-58.0%	-58.5%	58.0%	130.5%	-89.8%	-68.6%	-20.0%
SOx: Urban	-79.6%	-98.2%	-90.9%	-91.1%	-76.9%	-76.9%	-240.6%	-82.1%	-82.9%	-82.5%	-20.0%
CH4	85.6%	85.3%	-26.7%	-19.6%	-18.1%	-23.3%	-430.7%	-18.5%	-63.1%	-55.9%	-18.3%
N2O	-48.2%	-47.2%	-2.3%	-2.3%	-0.3%	-2.8%	0.7%	345.7%	103.3%	378.8%	-1.0%
CO2	-23.2%	-23.3%	-17.6%	-19.2%	-7.4%	-76.2%	-149.0%	-46.9%	-107.4%	-88.1%	-20.0%
GHGs	-20.3%	-20.3%	-17.6%	-18.9%	-7.6%	-73.3%	-155.1%	-37.2%	-101.5%	-76.7%	-19.6%

