

Neste Oil Pte Ltd

CA-GREET Model

The applicant has conducted its analysis of direct effects on carbon intensity for this pathway using CA-GREET, v.1.8b (Dec. 2009) (See http://www.arb.ca.gov/fuels/lcfs/ca_greet1.8b_dec09.xls). The standard inputs and parameters specified in CA-GREET remain unchanged except as noted in the input table below. The input table below specifies the spreadsheet location of the CA-GREET inputs and other parameters that were claimed as confidential business information or trade secret by the applicant, but it does not disclose the actual value of such inputs and parameters because they are claimed to be confidential business information or trade secret.

Neste Oil Input data table (Locations of cells containing Confidential Business Information are shown, but the actual values of such confidential information are not disclosed):

Neste Oil CA-GREET Model, Tallow rendering

Neste Oil Input data table (Locations of cells containing Confidential Business Information are shown, but the actual values of such confidential information are not disclosed):

Sheet Name	Cell Number	GREET default value	Neste Oil	Comments
Input	B339	1	2	NExBTL fuel specs were tied to RD II
Input	C351	1	4	User defined electricity mix
Fuel_Specs	C32	122887	Confidential	NExBTL properties
Fuel_Specs	A32	Renewable Diesel II (UOP-HDO)	NExBTL	NExBTL properties
Fuel_Specs	E32	2948	Confidential	NExBTL properties
T&D	IF93	1400	Confidential	Transportation distances modified
T&D	GH93	520	Confidential	Transportation distances modified
T&D	GG93	50	Confidential	Transportation distances modified
T&D	GI93	400	Confidential	Transportation distances modified
T&D	GJ93	1400	Confidential	Transportation distances modified
T&D	AG5	0	Confidential	Vessel size has been changed
T&D	AG12	0	Confidential	Vessel size has been changed
T&D	W5	0	Confidential	Vessel size has been changed
T&D	U12	0	Confidential	Vessel size has been changed
T&D	IF108	370	Confidential	Relates to transportation method
T&D	IF109	0	Confidential	Relates to transportation method
T&D	IF95	100	Confidential	Fuels used for tallow transportation
T&D	IF96	0	Confidential	Fuels used for tallow transportation
T&D	GH108	403	Confidential	Relates to vessel type
T&D	GH109	307	Confidential	Relates to vessel type
T&D	CN138	0	Confidential	RD transportation
T&D	CN142	80	Confidential	RD transportation
Tallow RD	B11	3623	Confidential	Energy consumption of rendering
Tallow RD	B14	2175	Confidential	Energy consumption of RD processing
Tallow RD	B21	1,17	Confidential	RD process mass balance
Tallow RD	C42	0,059	Confidential	RD process co-products
Tallow RD	J172	3,8%	Confidential	Energy consumption of RD processing
Tallow RD	F226	Renewable Diesel II	NExBTL	Fuel type/name
Tallow RD	J175	6,1%	Confidential	Energy consumption of RD processing
Tallow RD	J181	90,1%	Confidential	Energy consumption of RD processing
Tallow RD	B172	88,3%	Confidential	Energy consumption of rendering
Tallow RD	B175	11,7%	Confidential	Energy consumption of rendering
Regional_LT	C83	2,7%	Confidential	User defined electricity mix
Regional_LT	C84	18,9%	Confidential	User defined electricity mix
Regional_LT	C85	50,7%	Confidential	User defined electricity mix
Regional_LT	C86	18,7%	Confidential	User defined electricity mix

Regional_LT	C87	1,3%	Confidential	User defined electricity mix
Regional_LT	C88	7,7%	Confidential	User defined electricity mix
T&D	CN144	2550	Confidential	RD transportation
T&D	CN145	2544	Confidential	RD transportation
T&D	CN146	63,151	Confidential	RD transportation
T&D	CN147	122,160	Confidential	RD transportation
T&D	CN148	2358	Confidential	RD transportation
T&D	CN150	0,084	Confidential	RD transportation
T&D	CN151	0,374	Confidential	RD transportation
T&D	CN152	1,071	Confidential	RD transportation
T&D	CN153	0,037	Confidential	RD transportation
T&D	CN154	0,025	Confidential	RD transportation
T&D	CN155	0,039	Confidential	RD transportation
T&D	CN156	0,218	Confidential	RD transportation
T&D	CN157	0,005	Confidential	RD transportation
T&D	CN158	199,793	Confidential	RD transportation
T&D	CN160	0,003	Confidential	RD transportation
T&D	CN161	0,001	Confidential	RD transportation
T&D	CN162	0,004	Confidential	RD transportation
T&D	CN163	0,000	Confidential	RD transportation
T&D	CN164	0,000	Confidential	RD transportation
T&D	CN165	0,000	Confidential	RD transportation
T&D	GH117	0,470	Confidential	Relates to vessel type
T&D	GH118	1,316	Confidential	Relates to vessel type
T&D	GH119	10,703	Confidential	Relates to vessel type
T&D	GH120	0,319	Confidential	Relates to vessel type
T&D	GH121	0,157	Confidential	Relates to vessel type
T&D	GH122	2,758	Confidential	Relates to vessel type
T&D	GH123	0,956	Confidential	Relates to vessel type
T&D	GH124	0,021	Confidential	Relates to vessel type
T&D	GH125	928,187	Confidential	Relates to vessel type
T&D	GH127	0,000	Confidential	Relates to vessel type
T&D	GH128	0,000	Confidential	Relates to vessel type
T&D	GH129	0,001	Confidential	Relates to vessel type
T&D	GH130	0,000	Confidential	Relates to vessel type
T&D	GH131	0,000	Confidential	Relates to vessel type
T&D	GH132	0,000	Confidential	Relates to vessel type
T&D	IF111	602444	Confidential	Relates to transportation method
T&D	IF112	600894	Confidential	Relates to transportation method
T&D	IF113	14919	Confidential	Relates to transportation method
T&D	IF115	557116	Confidential	Relates to transportation method
T&D	IF117	35,197	Confidential	Relates to transportation method
T&D	IF118	120,488	Confidential	Relates to transportation method
T&D	IF119	945,082	Confidential	Relates to transportation method
T&D	IF120	25,076	Confidential	Relates to transportation method
T&D	IF121	20,493	Confidential	Relates to transportation method
T&D	IF122	6,551	Confidential	Relates to transportation method
T&D	IF123	52,851	Confidential	Relates to transportation method

T&D	IF124	1,112	Confidential	Relates to transportation method
T&D	IF125	47097	Confidential	Relates to transportation method
T&D	IF127	0,633	Confidential	Relates to transportation method
T&D	IF128	0,323	Confidential	Relates to transportation method
T&D	IF129	0,980	Confidential	Relates to transportation method
T&D	IF130	0,020	Confidential	Relates to transportation method
T&D	IF131	0,018	Confidential	Relates to transportation method
T&D	IF132	0,029	Confidential	Relates to transportation method

Neste Oil CA-GREET Model, RD processing

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Regional_LT	C87	1,3%	Confidential	User defined electricity mix
Regional_LT	C88	7,7%	Confidential	User defined electricity mix
NG	J73	0,0%	Confidential	NNA NG process fuels
NG	J75	0,0%	Confidential	NNA NG process fuels
NG	J79	0,0%	Confidential	NNA NG process fuels
NG	J80	0,0%	Confidential	NNA NG process fuels
T&D	CN144	2550	Confidential	RD transportation
T&D	CN145	2544	Confidential	RD transportation
T&D	CN146	63,151	Confidential	RD transportation
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T&D	IF131	0,018	Confidential	Relates to transportation method
T&D	IF132	0,029	Confidential	Relates to transportation method
Hydrogen	B90	428695	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B91	428215	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B92	2372	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B94	1789	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B96	2,969	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B97	8,866	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B98	11,732	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B99	1,370	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B100	1,046	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B101	4,338	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B102	51,924	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B103	0,104	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B104	16129	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B109	0,146	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B110	1,099	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B111	0,891	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B112	0,198	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B113	0,198	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B114	0,001	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B121	72395	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B122	71856	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B123	2695	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B125	4276	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B126	6,495	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B127	12,103	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B128	23,312	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B129	0,938	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B130	0,555	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B131	10,868	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B132	129,433	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B133	0,070	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B134	5386	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B137	0,133	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B138	0,300	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B139	0,790	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B140	0,017	Confidential	Pipeline NNA natural gas as feed/fuel

Hydrogen	B141	0,017	Confidential	Pipeline NNA natural gas as feed/fuel
Hydrogen	B142	0,001	Confidential	Pipeline NNA natural gas as feed/fuel