Message

From: Daguillard, Robert [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BBE9682B940C4F2C90732E4D37355DD4-DAGUILLARD,]
Sent: 6/19/2018 12:09:07 PM
To: Kevin Ma [Ex. 6 Press [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b293283291dc44e0b5d1c36be9281d8a-Press]
Subject: RE: Research question from St. Albert Gazette

Good morning Kevin,

On background, please:

The most recent Waste Reduction Model version available is WARM v. 14, available at this link: https://www.epa.gov/warm. Click on the link for "WARM Tool" and you will be directed to instructions on how to download the most recent WARM tool. The per ton estimates of GHG emissions are located on the "Analysis Results (MTCO2E)" tab, but are also listed below. Please note that a numbers in parentheses denote a negative GHG impact, or in other words, a net benefit.

Per Ton Estimates of GHG Emissions for Baseline and Alternative Management Scenarios

Material	GHG Emissions per Ton of Material Source Reduced ($MTCO_2E$)	GHG Emissions per Ton of Material Recycled ($MTCO_2E$)	GHG Emissions per Ton of Material Landfilled ($MTCO_2E$)	GHG Emissions per Ton of Material Combusted ($MTCO_2E$)	GHG Emissions per Ton of Material Composted ($MTCO_2E$)	GHG Emission per Ton of Material Anaerobically Digested
Aluminum Cans	(4.91)	(9.11)	0.02	0.04	NA	NA
Aluminum Ingot	(7.47)	(7.19)	0.02	0.04	NA	NA
Steel Cans	(3.06)	(1.81)	0.02	(1.57)	NA	NA
Copper Wire	(7.01)	(4.71)	0.02	0.03	NA	NA
Glass	(0.53)	(0.28)	0.02	0.03	NA	NA
HDPE	(1.47)	(0.87)	0.02	1.23	NA	NA
LDPE	(1.80)	NA	0.02	1.24	NA	NA
PET	(2.20)	(1.12)	0.02	1.21	NA	NA
LLDPE	(1.58)	NA	0.02	1.23	NA	NA
PP	(1.55)	NA	0.02	1.23	NA	NA
PS	(2.50)	NA	0.02	1.60	NA	NA
PVC	(1.95)	NA	0.02	0.64	NA	NA
PLA	(2.09)	NA	(1.64)	(0.65)	(0.15)	NA
Corrugated Containers	(5.60)	(3.12)	0.23	(0.51)	NA	NA
Magazines/third-class mail	(8.60)	(3.07)	(0.39)	(0.37)	NA	NA
Newspaper	(4.77)	(2.75)	(0.82)	(0.58)	NA	NA
Office Paper	(7.97)	(2.86)	1.22	(0.49)	NA	NA
Phonebooks	(6.22)	(2.64)	(0.82)	(0.58)	NA	NA
Textbooks	(9.07)	(3.11)	1.22	(0.49)	NA	NA
Dimensional Lumber	(2.03)	(2.46)	(1.01)	(0.61)	NA	NA
Medium-density Fiberboard	(2.23)	(2.47)	(0.88)	(0.61)	NA	NA
Food Waste (non-meat)	(0.76)	NA	0.54	(0.14)	(0.18)	(0.06)
Food Waste (meat only)	(15.10)	NA	0.54	(0.14)	(0.18)	(0.06)
Beef	(30.05)	NA	0.54	(0.14)	(0.18)	(0.06)
Poultry	(2.47)	NA	0.54	(0.14)	(0.18)	(0.06)
Grains	(0.62)	NA	0.54	(0.14)	(0.18)	(0.06)
Bread	(0.67)	NA	0.54	(0.14)	(0.18)	(0.06)
Fruits and Vegetables	(0.44)	NA	0.54	(0.14)	(0.18)	(0.06)
Dairy Products	(1.74)	NA	0.54	(0.14)	(0.18)	(0.06)

Yard Trimmings	NA	NA	(0.18)	(0.18)	(0.15)	NA
Grass	NA	NA	0.13	(0.18)	(0.15)	NA
Leaves	NA	NA	(0.52)	(0.18)	(0.15)	NA
Branches	NA	NA	(0.51)	(0.18)	(0.15)	NA
Mixed Paper (general)	(6.11)	(3.53)	0.13	(0.51)	NA	NA
Mixed Paper (primarily residential)	(6.04)	(3.53)	0.07	(0.51)	NA	NA
Mixed Paper (primarily from offices)	(7.41)	(3.59)	0.17	(0.47)	NA	NA
Mixed Metals	(3.70)	(4.34)	0.02	(1.02)	NA	NA
Mixed Plastics	(1.92)	(1.02)	0.02	1.22	NA	NA
Mixed Recyclables	NA	(2.82)	0.04	(0.44)	NA	NA
Food Waste	(3.66)	NA	0.54	(0.14)	(0.18)	(0.06)
Mixed Organics	NA	NA	0.20	(0.16)	(0.16)	NA
Mixed MSW	NA	NA	0.35	(0.07)	NA	NA
Carpet	(3.82)	(2.36)	0.02	1.08	NA	NA
Personal Computers	(50.49)	(2.50)	0.02	(0.19)	NA	NA
Clay Bricks	(0.27)	NA	0.02	NA	NA	NA
Concrete	NA	(0.01)	0.02	NA	NA	NA
Fly Ash	NA	(0.87)	0.02	NA	NA	NA
Tires	(4.28)	(0.38)	0.02	0.51	NA	NA
Asphalt Concrete	(0.11)	(0.08)	0.02	NA	NA	NA
Asphalt Shingles	(0.19)	(0.09)	0.02	(0.35)	NA	NA
Drywall	(0.21)	0.03	(0.06)	NA	NA	NA
Fiberglass Insulation	(0.38)	NA	0.02	NA	NA	NA
Vinyl Flooring	(0.61)	NA	0.02	(0.33)	NA	NA
Wood Flooring	(4.05)	NA	(0.86)	(0.77)	NA	NA

Cheers, R.

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Ex. 6

From: Kevin Ma Ex. 6
Sent: Sunday, June 17, 2018 2:05 PM
To: Press <Press@epa.gov>
Subject: Fwd: Research question from St. Albert Gazette

---------- Forwarded message ----------
From: **Kevin Ma** Ex. 6 n>
Date: Sun, Jun 17, 2018 at 12:03 PM
Subject: Research question from St. Albert Gazette
To: lynn.tricia@epa.gov, jones.enesta@epa.gov

Kevin Ma from the St. Albert Gazette here, a newspaper in Alberta, Canada. I'm looking for the greenhouse gas emission factors (metric tons CO2e per short ton, although per metric ton preferred) for various forms of waste so I can compare the GHG benefits of recycling vs source reduction, landfill, combustion, etc. I got the attached information from the WARM model a few years back and am looking for the up to date numbers. Where can I find them? (I can find most of the stuff but wasn't sure what numbers to use for composting.

I can be reached here or a Ex. 6 Deadline end of Monday or so.

Thanks
Kevin