

Niagara CAER Group

Community Awareness – Emergency Response

Chemical Companies

Emissions Report

(NERM)

2018 Report for 2017 Emissions

Niagara CAER Group Chemical Companies

2018 Emissions Report

(For 2017)

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Introduction

- Issued annually by the Niagara CAER Group Chemical Companies.
- A commitment to being open with the public.
- This is the twenty fifth year of publication.
- Production levels have increased slightly in 2017 from 2016 about 6%
- Member companies strive to reduce chemical emissions and chemical waste.
- Results are presented as charts and tables.

Summary of Report

- 2017 Chemical emissions have increased slightly from previous year.
- Chemical emissions Per Kg. of production have leveled out the past 3 years.
- Combustion emission levels per kilogram of production were unchanged from previous year as production levels increased slightly.
- Waste generation has decreased from previous year.

**NIAGARA CAER
Member Companies**

Chemtrade Logistics Inc.

Solvay/Cytec Canada Inc.

Durez Canada Company Ltd.

Kemira Chemicals Canada Inc.

Mancuso Chemicals Limited

Oxy Vinyls Canada Co.

Photech Environmental Solutions

Member Companies Contact Names

Company	Contact Name and Number	
Chemtrade Logistics Inc.	Mike Kill Joe Iuliano	419 234-0138 905-354-3233
CYTEC Canada Inc.	Jozef Olejarz Christine Mariotti	905 374-5851 905 374-5849
Durez Canada Company Ltd.	Robert Hunt Kevin Rady	905 346-8615 905 346-8625
Kemira Chemicals Canada Inc.	Bruno Montpetit Megan Bonaldo	905-688-6470 905-688-6470
Mancuso Chemicals Ltd.	Tom Metcalf Bob Montgomery	905-357-3626 905-357-3626
Oxy Vinyls Canada Co.	Jim Segada Jane Perz	905-374-5601 905-374-5629
Photech Environmental Solutions	John Dunker	905 938-9465

Chemicals Manufactured and Uses

- **Solvay/Cytec: Phosphine, Fumigants, Mineral Extractants, Speciality Phosphine Chemicals**
Electronics Industry, Metal Recovery, Mining industry, Fumigation, Biocides
- **Durez: Phenolic Resins and Compounds,**
Automotive, Brake pistons, Clutch Facings, Electrical Applications.
- **Chemtrade Logistics: Distributes Sulphur Products, Sulphur Dioxide and Molten Sulphur.**
Pulp and paper, Electronics, mines and cyanide destruction.
- **Oxy Vinyls: PVC Resins**
Construction: Pipe & fittings, House Siding, Window Frames, Floors, Wallpaper, Fencing, roof and pool membranes. Packaging, Medical Tubing, Wire and Cable, Automotive dashes, bumpers and trim.
- **Kemira: Defoamers, Dyes and specialty Chemicals.**
Water treatment and allied processes in pulp and paper production; oil & mining processes, and paint formulation.
- **Mancuso: Phenolic, Furan and Alkyd Resins, Aryl Sulfonic Acids,**
Binder systems for foundries and Alkyds for Industrial Coatings.
- **Photech: Recycle paint, Recover Hydrocarbons.**

NIAGARA CAER GROUP
2017 COMPOSITE PROFILE
For 2018 NERM Report

		2017	2016
Number of Employees		392	338
Payroll (Including Benefits)	\$	41,498,186	40,330,097
Taxes	\$	1,272,686	1,361,522
Utilities	\$	10,549,153	13,992,981
Value of Supplies and Services	\$	62,352,295	19,791,175
Value of Sales	\$	554,660,628	517,311,227
Percent of Products Exported	%	79.5	78
Production Levels,	kg	315,694,173	296,647,683
2018 Production Estimate,	kg	336,594,612	
Charity Support (United Way etc.)	\$	56,200	40,900

Explanations

Chemical Emissions

- Chemical emissions for 2017 increased by 14% from 2016 levels
- Production levels were up by 6% from 2016.
- 2017 emission levels increased by 14% despite only 6% higher production levels. This was a result of one of the emission chemicals being higher due to a change in the emissions modeling specifications from the MOE.
- Some chemical emissions were reduced while others increased due to product mix and calculations and formulas for the NPRI report.

Chemical Wastes

- Chemical wastes to landfill and incineration decreased by 56% from 2016 levels.
- There is more emphasis put on recycle and treatment of waste.
- Chemical wastes per kg of production decreased from the previous year despite higher production levels
- Chemical wastes are sometimes accumulated over time and sent for treatment.
- Plants are doing a great job in controlling waste to landfill, incineration and water.
- The majority of wastes are recycled/treated waste.

Combustion Emissions

- Greenhouse gases were slightly higher than 2016 levels
- Combustion emissions are tied directly to production levels and heating requirements.
- Combustion levels are variable due to weather conditions.

**Chart No. 1
Chemical Emissions**

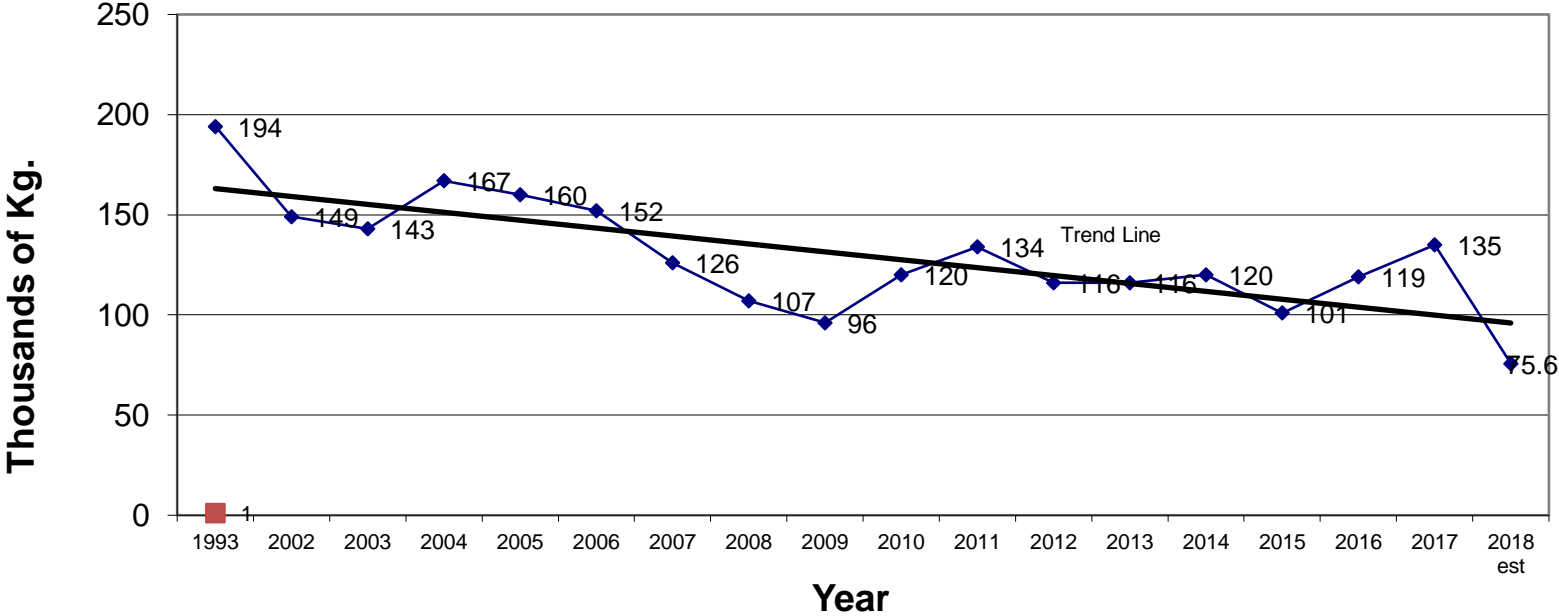
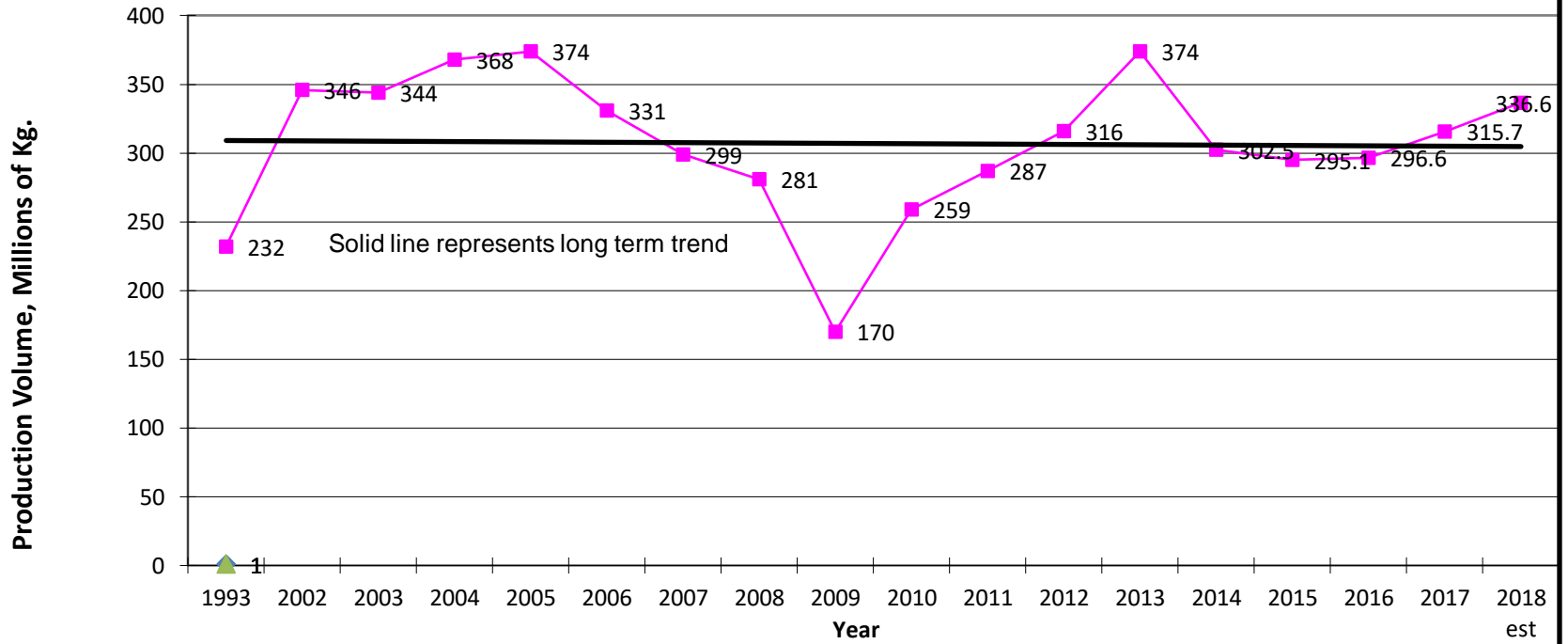
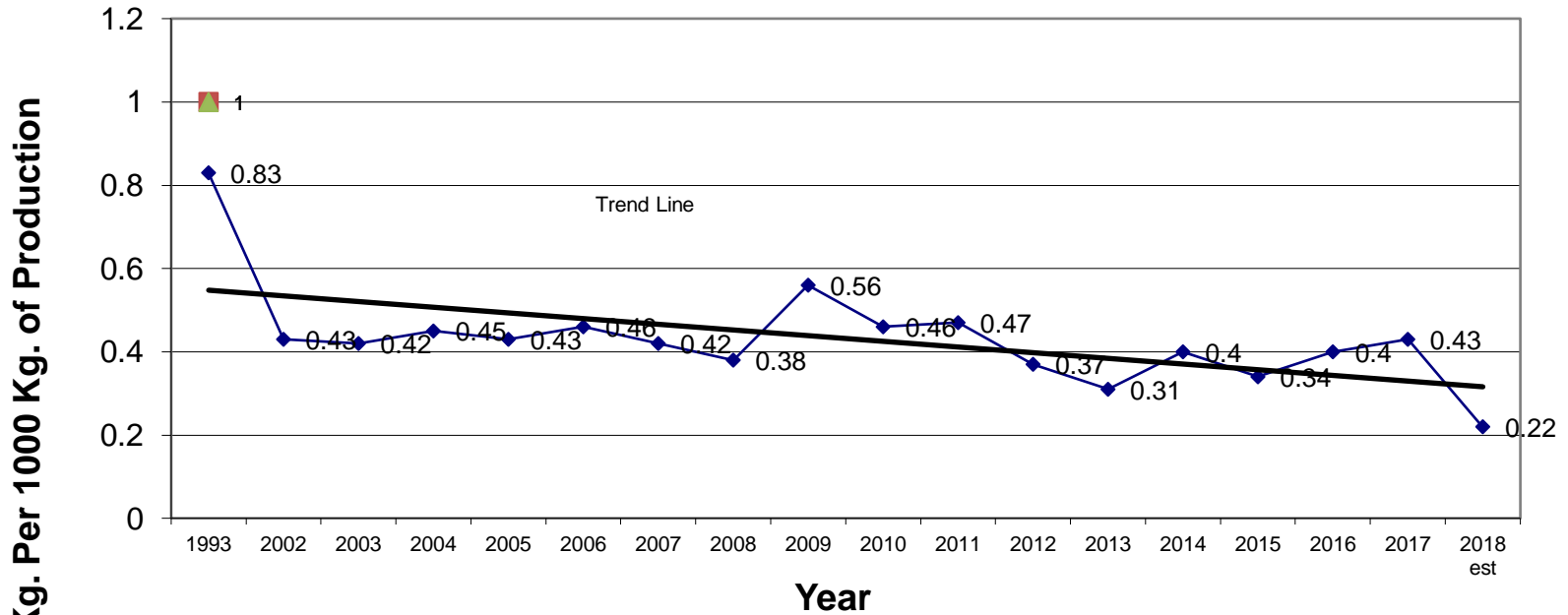


Chart No.2 Production Volume



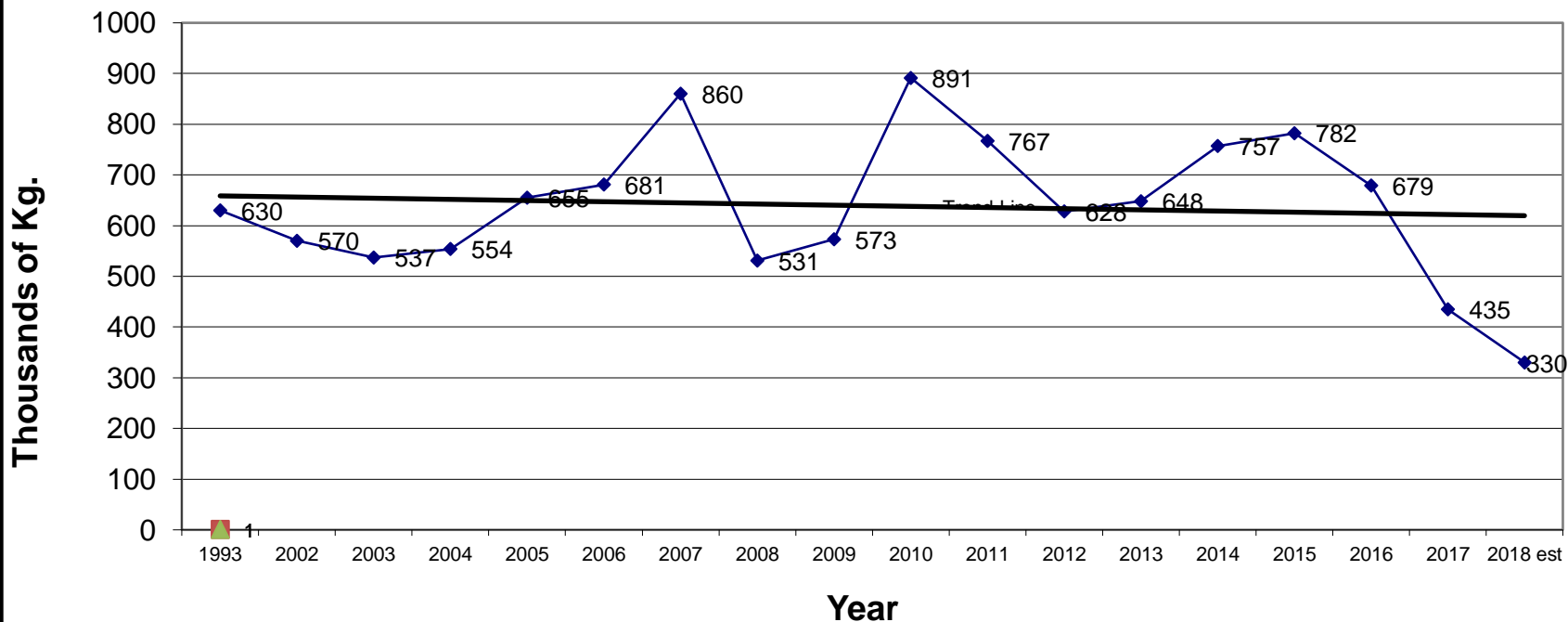
Production level increased by 6% from previous year

Chart No. 3
Chemical Emissions Per 1000 Kg. Of Production



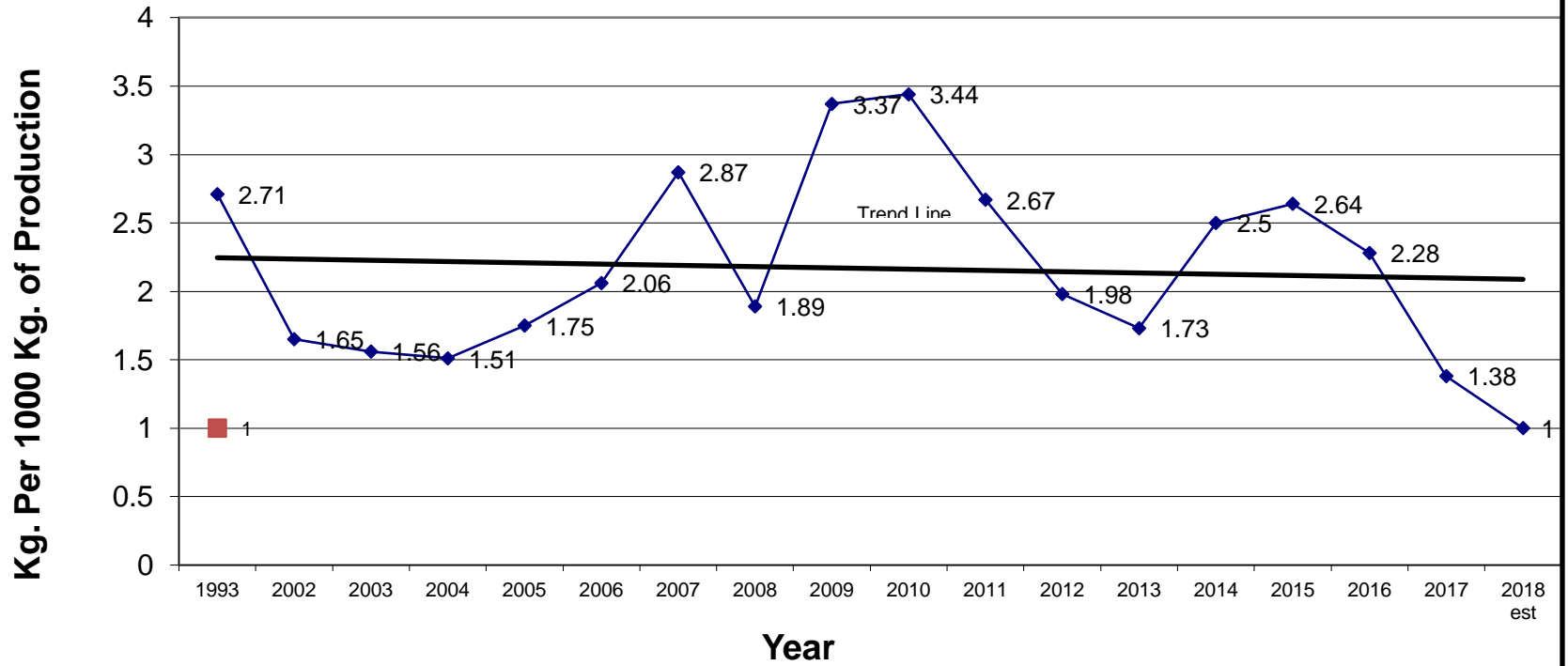
Chemical emissions per kg of production have increased slightly from previous year.

Chart No. 4 Chemical Wastes

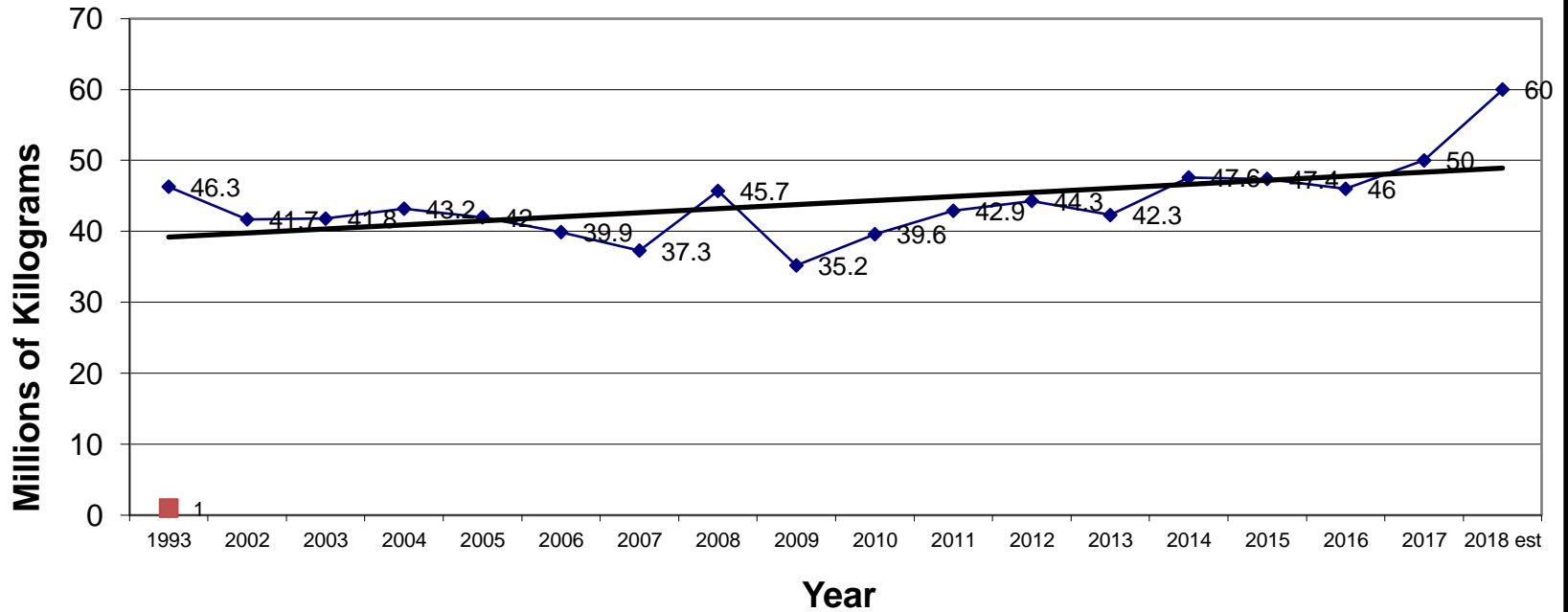


Chemical Wastes are accumulated over time and periodically shipped out for treatment. As a result, depending on the shipping dates, there can be big swings in "apparent" generation of wastes. Chemical waste has decreased from previous years.

Chart No. 5
Chemical Wastes Per 1000 Kg. of Production

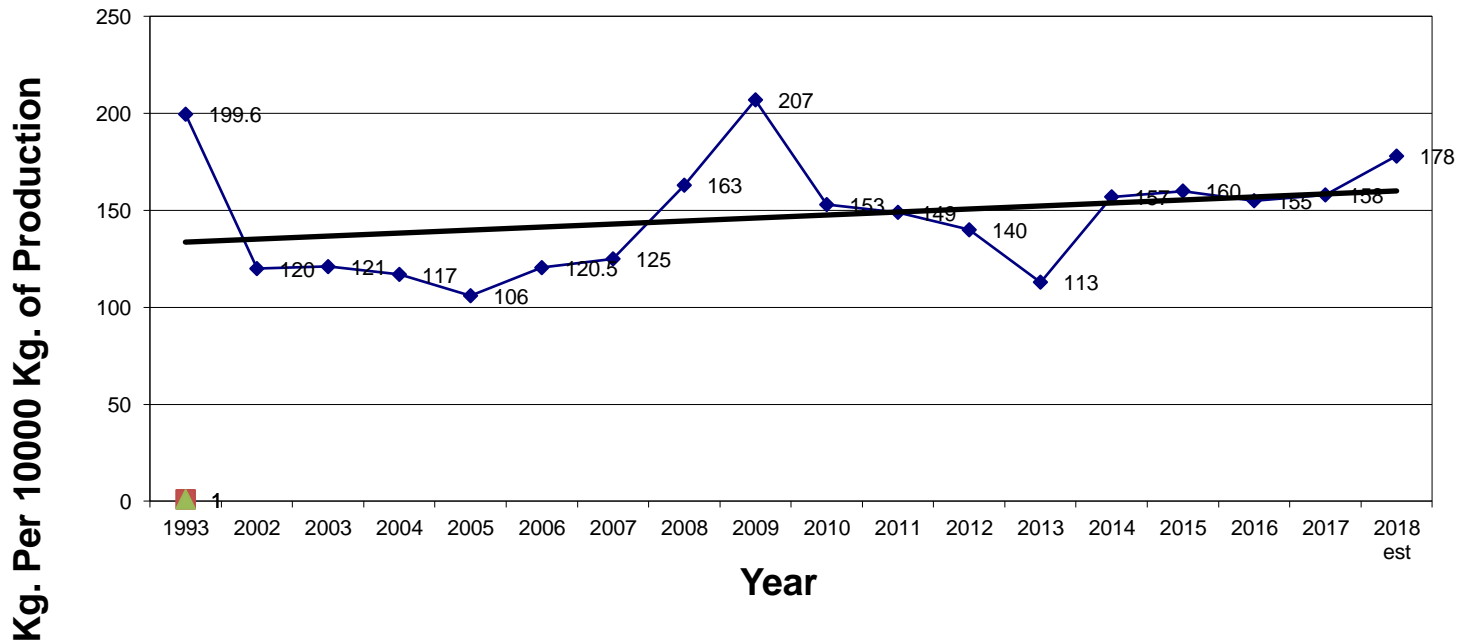


**Chart No. 6
Combustion Emissions**



Combustion emissions increase as production increases as fuel for process steam and heating requirements increase.

Chart No. 7
Combustion Emissions per 10000 Kg. of Production



Combustion emissions per kg of production has been constant for the past 5 years

Chemical Emissions to Air and Water
Year 2017 Emissions and Comparisons with 2016 Results
Table 1

Plant No.	Chemical Name	Amount Released in 2017 Kilograms		Total 2017 kg.	Total 2016 kg.	% Change From 2016	Estimate 2018 kg.
		Waterway	Air				
2	Nitrogenous Material	655		655	855	-23	700
1,2,3	Ammonia	415	10,482	10,897	28,088	-61	8,600
2,3,5,6	Methanol		140	140	196	-29	343
2	Iso Octane		7,515	7,515	2,400	+213	7,500
2	Vinyl Chloride	1	353	354	353	0	355
3	White Mineral Oil**		531	531	104	+410	500
3,5	Ethyl Alcohol		59,536	59,536	59,627	-1.5	16,500
1,2	Nitrate Ion	25,254		25,254	21,110	+16	17,500
1,5	Isopropanol		45	45	48	-6	60
2,3,6	Phenol ***		28,534	28,534	3,794	+625	21,000
1,3,6	Formaldehyde		20	20	55	-63	10
5	Sodium Metasilicate**		102	102	122	-16	100
2	Oil and Grease	965		965	909	+6	925
2	Phosphorus Salts	124		124	234	-47	180
2	Aluminum Ion	130		130	316	-58	200
5	Sodium Gluconate**		132	132	133	0	130
4	Sulphur Dioxide				0		
5	Acetic Acid				0		
5	Glycol Ether				0		
	Emissions less than 100 kg./yr.*	10	363	373	308	+21	350
	Total Emissions, kg.	27,553	107,753	135,306	118,652	+14	75,953

Identification of Companies: (1) Solvay/Cytec (2) Oxy Vinyls (3) Durez (4) Chemtrade Logistics (5) Kemira Chemicals (6) Mancuso Chemicals

*Includes: zinc; HCFC; cyanide; calcium hydroxide; ferric oxide; carbon black; naphthalene; 1,2,4-trimethyl benzene; furfuryl alcohol; ethyl benzene; gasoline, Toluene, Xylene

** New Chemicals added to the list

*** Phenol emissions increased due to a change in reporting and emission modeling specifications from the Ministry of Environment.

Chemical Wastes

Year 2017 Data and Comparisons with 2016 and 2018 Estimates

Table 2

Plant No.	Chemical Name	Amount Transferred in 2017 Kilograms		Recycled/Treated	Total 2017 Kg	Total 2016 Kg	% Change From 2016	Estimate 2018 kg.
		Landfill	Incinerated		Does not include recycled.			Does not include recycle mat's
1	Tributyl-Phosphine Sulfide	0	0	0	0	6,240	-100	0
3,6	Phenol	1,250	58,287	95,540	59,537	63,252	-6	91,200
1,2,5,6	Liquid Industrial Waste (Oils,etc)	28,291	0	157,506	28,291	207,613	-733	35,000
2	Vinyl Resins	47,236	0	402,690	47,236	62,785	-25	102,000
1	Phosphorus Salts	0	0	0	0	2,612	-100	
1,2,4,5	Waste Misc. Haz. Prod. & Rinses	65,117	230,739	1,624,429	295,856	292,771	+1	70,000
3	Formaldehyde	75	4,105	6,744	4,180	4,446	-6	4,000
4	Sodium Hydroxide	0	0	0	0	16,798	-100	10,000
6	Polymer Resin Solutions ***	0	0	0	0	22,560	-100	18,000
Chemicals with wastes of 100 Kg. or less per year **								
Total Chemical Wastes		141,969	293,131	2,286,909	435,100	679,077	-56	330,200

Identification of Companies: (1) Solvay/Cytec (2) Oxy Vinyls (3) Durez (4) Chemtrade Logistics (5) Kemira Chemicals (6) Mancuso Chemical

** Includes: Mercury and Batteries.

*** Not reported in previous years.

Combustion Emissions
Burning Fuel For Steam Generation And Drying
Emissions for 2017 and 2016 and Estimates for 2018

Table 3

Combustion Product Component	Amount Released		
	2017	2016	2018 Estimate
Carbon Dioxide 1000 Metric tonnes	49.87	45.95	59.81
Nitrogen Dioxide Metric tonnes	44.75	40.4	53.04
Carbon Monoxide Metric tonnes	29.40	28.3	31.91
Sulfur Oxides Metric tonnes	0.746	0.367	0.500
Methane Metric tonnes	1.140	1.062	1.190
Volatile Organic Carbon Metric tonnes	2.96	2.28	3.38
Totals 1000 Metric tonnes	49.95	46.0	59.90

Non Plant CAER Members

Fire Departments From

Fort Erie, Niagara Falls, Thorold, St Catharines

Niagara Region Police

CN Police

Niagara Region EMS

Niagara Health System

Niagara College

Associate CAER Members

First Response Environmental

Terrapure Emergency Response Services

Quantum Murray Emergency Response and Training

GHD Incident Response Services

Niagara CAER Group

Community Awareness – Emergency Response

For more information visit the web site at

www.niagaracaer.com

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