



# MINNESOTA BATTERY STEWARDSHIP REPORT

REPORTING PERIOD: 2015 & 2016

# **Prepared for:**

Minnesota Pollution Control Agency 520 Lafayette Rd. St. Paul, MN 55155

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# **Battery Recycling Collections**

Over the past 12 months, batteries and cell phones collected by Call2Recycle, Inc. in Minnesota increased compared to 2015. In 2015, Call2Recycle collected 162,796 lbs. of cell phones and batteries. In 2016, that number increased to 327,540 lbs. – an increase of 101%. Below please find the specific recycling collection data by battery chemistry (Figure 1) and by industry sector (Figure 2):

#### FIGURE 1

Statewide Battery & Cellphone Collections				
Material Type	Material Name	2015	2016	% Chg
Rechargeable	Nickel Cadmium (Ni-Cd)	69,153	79,767	15%
Rechargeable	Small Sealed Lead Acid (SSLA/Pb)	30,105	36,784	22%
Rechargeable	Lithium Ion (Li-Ion)	36,751	32,247	-12%
Rechargeable	Nickel Metal Hydride (Ni-MH)	10,131	12,903	27%
Primary	Alkaline	12,288	162,867	1225%
Primary	Lithium	3,501	2,397	-32%
Cell Phone	Cell Phone	824	556	-33%
Cell Phone	Cell Phone Accessories	43	19	-56%
Total Battery & Cell Phones		162,796	327,540	101%
Total Rechargeable Battery		146,140	161,701	11%

#### FIGURE 2

Battery Collections by Industry Sectors			
Industry	2015	2016	% Chg
Retail/Wholesale	48,580	44,598	-8%
Municipality	47,767	254,843	434%
Manufacturing	16,289	11,796	-13%
Business	29,658	4,837	-84%
Public Agency	19,643	17,064	-13%

Also, below please find the estimated number of pounds of ALL rechargeable batteries sold (includes Call2Recycle, Inc. Stewards and Non-Stewards) into the State (Figure 3). These estimates were part of a May 2016 document released by Call2Recycle, Inc. called, "US Consumer Battery Sales & Available for Collection - 2014-2020."

#### FIGURE 3

Estimated Rechargeable Batteries Sold into State & Pounds Recovered		
Industry	2015	2016
Estimated Pounds of ALL Rechargeable Batteries Sold into the State	3,095,000	3,165,000

# **Battery Recycling "Downstream"**

Batteries collected from Minnesota residents are transported to sorting facilities where they are separated by battery chemistry and then sent to the appropriate specialty processors. These processors extract material to be used in the manufacturing of new products. Below please find the "physical flow" (Figure 4) of where batteries go after they are dropped off at a Call2Recycle participating collection site.

FIGURE 4

call@recycle

## Call2Recycle Physical Flow: United States



### Public & Private

Public agencies Retailers Businesses Municipalities



### **Sorting Partners**

Battery Solutions Mesa, AZ Howell, Mi

Inmetco

Wistron GreenTech



## Battery Process & Recovery Partners

# Li-lon

## Glencore

Sudbury, ON, Canada cobalt, nickel & other materials recovered

SungEel Hitech Co. Incheon, South Korea cobalt, nickel & other materials recovered

Retriev

onbalt, nickel & other materials recovered

# Ni-Cd, Ni-MH.

## Ni-Zn

Inmetco Eliyood City, PA nickel-iron,

nickel-iron, stainless steel, cadmium recovered

## SSLA/Pb Dry Cell

Gopher Resource Eagan, MN lead recovered

Terrapure

Ville Ste-Catherine, QC, Canada lead recovered

# necove

#### Alkaline\*, Carbon Zinc, Lithium Primary

## Inmetco

Ellwood City, PA zinc, carbon,

manganese, lithium and other metals recovered

## **Battery Solutions**

Recovery\* Brighton, MI

zinc, carbon, manganese & potassium

## Cellphone Process & Recovery Partners

# 7

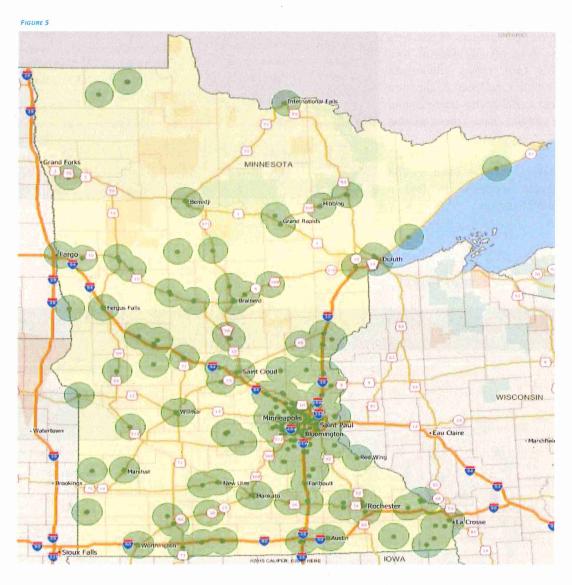
## The Wireless Alliance

Boulder, CO refurbished/resold or metals recovered

Waste products are responsibly and safely disposed of according to Responsible Recycling (R2) and Basel Action Network (BAN) standards. Cellphones are either refurbished and resold or recycled, with the proceeds used to fund the cellphone collection program and educational outreach.

# **Public Recycling Site Accessibility**

To optimize the percentage of the U.S. population that has access to battery and cell phone recycling through the Call2Recycle, Inc. collection site network, Call2Recycle, Inc. has developed an standard for measuring public recycling accessibility, specifically for batteries and cellphones. This accessibility rate measure the percent of a state's population that lives within a 10-mile radius of an available Call2Recycle, Inc. drop off location. By year's end, Call2Recycle, Inc. achieved a 85% accessibility rate in Minnesota. Please see the adjacent map (Figure 5) for specific details.



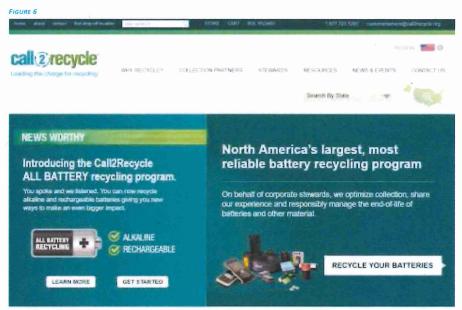
Collection Network		
Site Type	# of Sites	
# of Active Public Sites	301	
# of Active Private Sites	278	
Public Accessibility Rate	85%	

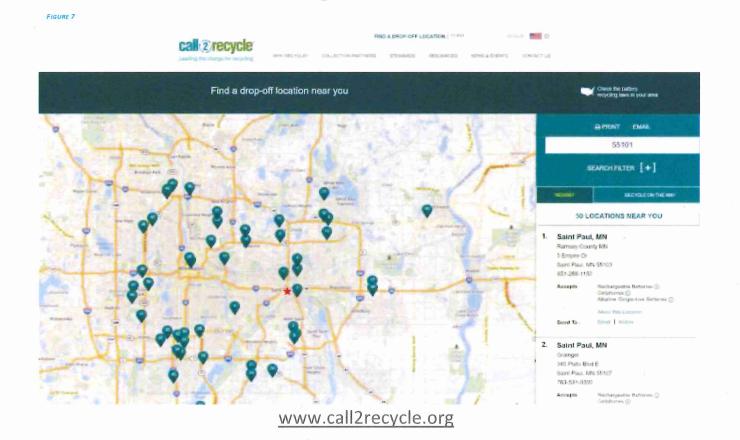
## **Web Site Statistics**

Call2Recycle's outreach efforts focus on driving consumers to our interactive web site (Figure 6) that not only serves as an educational tool to encourage consumers to recycle batteries but also provides local sites where they can convenient recycle batteries.

One of the most viewed sections of the web site is the public drop off site locator tool (Figure 7). This tool allows Minnesota residents to enter their City/Town or zip code to find the nearest Call2Recycle participating site to recycle their used rechargeable batteries.

In 2016, the locator tool was used 34,888 times by Minnesota residents to find a Call2Recycle drop-off location.





# **Outreach and Customer Service Activity**

Call2Recycle's Customer Service Team fields hundreds of daily inquiries from collection sites and consumers across the United States and Canada. Some of these inquiries are from the 1,200+ private and public battery collection sites in Minnesota.

In 2016, Call2Recycle's Customer Service Team fielded the following inquiries from Minnesota –

- Customer Requests Originating from Collection Sites/Consumers – 277
- New Collection Site Enrollments 39
- Collection Boxes sent to Collection Sites 3,397
- Collection Boxes returned from Collection Sites 2,895

Make a difference by recycling used rechargeable batteries HERE

Make a difference by recycling used rechargeable batteries today.

ITEMS ACCEPTED FOR RECYCLING:
Rechargeable batteries weiging 1 files, or less each.
No wet-cell, damaged or defective batteries accepted.

1. Lithium lon
1. Nickel Cadmium
2. Nickel Cadmium
2. Nickel Zince
3. Rickel Matal Hydride
4. Nickel Zince
6. Cellphones of any make, model or age

# Active Call2Recycle, Inc. Industry Stewards

3M Automotive Aftermarket Division 3M Commercial Solutions Division (CSD)

3M Constrctn & Home Imprv 3M Personal Safety Division Accell North America

Ace Hardware Corporation Acer America Corporation Advanced Battery Systems

Aero Design, Inc Agilent Technologies Allied Intl/Allied Tools Alltrade Tools LLC Alpha Source, Inc. Amazon.com, Inc.

American Lawn Mower Co American Toppower

Anton/Bauer

APC - Schneider Electric

Arris Group, Inc

Asus Computer International Audio Enhancement, Inc.

Audio Video D.G. (Gestion Quemar)

Axiom Mobile Group Baccus Global

barnesandnoble.com, LLC

Batteries Dixon inc.
Batteries Du Quebec
Batteries Illimitees
Batteries St-Eustache
Battery Specialties
Bayco Products
Bayer Healthcare

Belkin International, Inc.
Best Buy Canada Ltd.
Best Buy Co., Inc.
BionX International
Bissell Homecare, Inc
BlackBerry Limited
BMW Group Canada
Bose Corporation
Brother International

Buropro Citation inc.

Bushnell, Inc.

BYD Company Limited Canac-Marquis Grenier Ltee Canadian Tire Corporation, Ltd Canon Canada Inc Canon USA Inc Casio America, Inc. Cell-Con Inc

Century Optronic Inc.

Changzhou Globe Tools Co. Ltd.

Chervon HK Limited

Chervon HK Limited/The Home Depot Chervon HK Lmtd/The Home Depot Canada

Chrysler Canada Inc. Cisco Systems Inc.

CLD/Équipements Confortek
Cleva North America/LawnMaster

Cognex Inc.

Coleman Company Conair Corporation Costco Wholesale Canada

Couche-Tard Inc. CTE Energy Co., Ltd. Cybertron International

DANTONA INDUSTRIES/ULTRALAST Deere & Company (John Deere)

Delhaize America (Hannaford Suprmkts)

Dell Canada Inc.

Dell Inc

Deltran USA LLC Digi-Key Corporation Distributions Johnson Inc DLG (Shanghai) Electronic

Do it Best Corp.

Dollar General Corporation

Dollarama L.P.
Dorcy International
Duracell Canada Inc
Duracell US Operations
Eaton Corporation
Echo Incorporated
Electro-5 Inc.
Enerco Group Inc.
Energizer Canada Inc
Energizer Holdings, LLC.
Energizer Power Systems

**Energy Sales** 

EnerSys Delaware Inc. Epson America, Inc. Esselte Corporation

Evergreen (C.P.) USA Inc

EZsmart Gutter Cleaner, LLC

Familiprix Inc

Family Dollar Stores of NY, Inc.

FDK AMERICA

Fedco Electronics, Inc.

Ferno - Washington, Inc.

Finish Thompson, Inc.

Flying Dragon Development Ltd.

Ford of Canada

Fourniture de Bureau Denis

FujiFilm Holdings America Corp

Fujitsu America

GammaTech Computer Corporation

Garmin International, Inc

GE Healthcare Canada, Inc.

General Motors of Canada Limited

General Wireless Operations

Getac Inc.

Giant Tiger Stores Limited

Gibson Innovations USA, Inc.

GiiNii Tech Corporation

Global Technology Systems, Inc.

Gold Peak Industries (NA), Inc

**GP** Batteries

GRACO, Inc.

Gradus Group

Grand & Toy

Greatbatch Inc

GreenSmoke, Inc.

Groupe Blais inc.

Groupe BMR Inc.

GS Battery (USA) Inc.

Harris Corporation

HD Supply Holdings, Inc.

Hewlett Packard Enterpris

Hilti Canada Corporation

Hilti, Inc.

Hitachi Koki Canada Co.

Hitachi Koki USA Ltd

Hobbico, Inc

Home Hardware Stores Limited

**HoMedics** 

Honda Canada

Honeywell International Inc.

House of Batteries

HP Inc.

**HTC Corporation** 

Huawei Device USA. Inc

Husqvarna AB

Hyundai Auto Canada Corp

IDX System Technology Inc

Illinois Tool Works

IMA TEST Customer

**IMA Test Steward** 

Indigo Books and Music Inc

Industrial Battery Service Inc

Ingersoll Rand

Inspired Energy, LLC

Intec Industries Co. Ltd.

Intermetro Industries Corp

Interstate Batteries Inc.

Invacare Corporation

Invox Hardware Limited

iRobot Corp.

iTech

Jasco Products Company

Jiawei Technologies (USA) Ltd.

JKH Health Co., Ltd.

JLG Industries Inc

JVCKENWOOD USA Corp

KAN Battery Co., Ltd

Karcher North America

Keysight Technologies

Kia Canada Inc.

Konica Minolta

Kwonnie Electrical Products, LTD

Laliberté Électronique

Le Groupe Jean Coutu

Lego Group

Leica Camera Inc

Lenmar Enterprises, Inc.

Lenovo (Canada) Inc.

Lenovo (United States) In

Les magasins Korvette

Les Variétés P. Prud'homme Inc

LEXEL BATTERY CO LTD

LG Electronics Canada, Inc.

LG Electronics MobileComm USA

L'Image Home Products Inc. (IHP)

Loblaws Inc.

Logic Technology Development

LOGITECH INC.

Mag Instrument, Inc.

Magnacharge Battery Corpo

Maha Energy

Makita Canada, Inc.

Makita USA

Mattel, Inc.

Maxell Corporation of America

McKesson Canada

McMahon Distrib Pharmaceutique

Meritool LLC

Metabo Corporation Metro Richelieu Inc Michaels Stores Inc.

Microsoft

Midland Radio Corporation

Miller Mfg Co

Milwaukee Electric Tool Corporation Mitsubishi Motor Sales of Canada, Inc.

Moshi

Motorola Mobility, LLC Motorola Solutions, Inc MTD Products Inc

myCharge

National Battery National Power Corp

NEC Corporation of America Neptune Technology Group Inc.

Netgear, Inc.
Nikon Canada Inc
Nippon Primex Inc.
Nissan Canada Inc.
Noble Gift Packaging Inc
Normark Innovations Inc.

Novatel Wireless Inc

Novexco NU MARK LLC

Nylube Products Company LLC

O2COOL, LLC Oculus VR LLC

Olympus Corp of the Americas

OOMA INC

Oracle America, Inc.
Original Power
Palladium Energy
Panasonic Canada Inc
Panasonic Corporation

Pantech Co Ltd
Pelican Products, Inc.
Philips Consumer Electron
Philips Electronics LTD

Philips Lighting

Plantronics, Inc. PLR IP Holdings, LLC

Polycom, Inc.

Positec Tool Corporation POWER PRODUCTS Powermax USA ProTeam, Inc.

Quality One Wireless
Quebec Membre
Rapport, Inc.
Reckitt Benckiser

Resistacap

Richpower Industries, Inc.
Ridge Tool Company (RIDGID)

Rite Aid

RKI Instrument, Inc Robert Bosch Inc (Canada) Robert Bosch Tool Corporation

RONA Inc.

Royal Consumer Information Products, Inc.

Rozon Batteries Inc.
RRC POWER SOLUTIONS

SAIL plein-air inc.
Samsung Electronics Co
SANYO Energy (USA) Corp.

Scosche Industries
Scotts Canada Ltd.
SDI Technologies Inc
Sears Canada Inc.
Senco Products, Inc
Sensidyne LP

Sharp Electronics Corporation Sharp Electronics of Canada

**SHIMANO** 

Shoppers Drug Mart Inc Sigma Corporation

Sinopower Technology (HK) Ltd

Snap-on Inc Sobeys Quebec Inc. Sony Electronics, Inc

Sophos Ltd

Southern Telecom, Inc.

SOUTHWICK TECHNOLOGIES INC

Southwire Company Spectrum Brands

SRAM, LLC

Stanley Black & Decker Canada Stanley Black & Decker, Inc.

Staples Canada, Inc.

Stihl Incorporated

Stihl Limited

StorTronics

Strand Europe Ltd

Streamlight, Inc.

Summer Infant, Inc.

Surefire, LLC

Suzuki Canada Inc.

SY KESSLER SALES, INC

**Tacony Corporation** 

Technical Power Systems Inc.

Techtronic Industries GmbH

Techtronic Trading Ltd

Test Rite Products Corp

Texas Instruments Inc

The Gillette Co/Braun Div

The Gillette Co/Oral-B Div

The Home Depot of Canada, Inc.

The Source (Bell) Electronics Inc.

The Toro Company

TNR Technical

TomTom Inc.

TOSHIBA AMERICA

Toshiba of Canada Limited

Toyota Canada Inc.

Toys R Us Canada, LTD

Toys R Us, Inc.

**Tractor Supply Company** 

Transcosmos America Inc.

Traxxas L.P.

Trek Bicycle Corporation

True Value Company

TTEK ASSEMBLIES INC

TTI (Macao Comm OfSh) Ltd

**UAP Inc** 

**ULTRALIFE CORPORATION** 

Uniden America Corporation

Uniprix Inc

Variétés B. Desmarais 1992 Inc

VARTA Microbattery Inc.

Venom Power

Vera Bradley

Vernier Software & Technology

Vibratex, Inc.

Vizio Inc.

VTech Telecommunications Ltd

WACOM TECHNOLOGY CORP

Walmart Canada

WATER PIK, INC.

WOHLER USA

Xplore Technologies Corp.

Zebra Technolgies Enterprise Corp

Zippo Manufacturing Company