

# THE ROLE OF AN AUTO RECYCLER IN NORTH AMERICA

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# Outline

1. History of Auto Recycling
2. Operational Models
3. ELV Sourcing
4. ELV Depollution
5. Key Revenue Centres
6. Industry Standards – National and Global
7. Information Gaps

# The History of Auto Recycling

**One of the oldest recycling industries in the world**



Grand Rapids, 1928

# The History of Auto Recycling

## Today

- Sophisticated buying and pricing tools
- Integrated VIN decoding, auction analysis and vehicle purchasing tools
- Inventory management systems with international exchange networks
- Online parts databases loaded into insurance estimates, online parts stores, eBay



Item #	Stock #	QCI	QCI Status	Part #	Location	Year	Model	Lot Number	Odometer	Grade	Sub No	Bid Price	Vehicle Link
76	00405	2010	Dodge 1500 Pickup	00094		2010	Dodge 1500 Pickup	00094	137,418	B	00,000.00	\$0.00	<a href="#">View on Website</a>
76	00020	2009	Sierra 1500 Pickup	00090		2009	Sierra 1500 Pickup	00090	79,743	A	\$0.00	\$0.00	<a href="#">View on Website</a>
76	00015	2011	Jeep	00094		2011	Jeep	00094	33,071	A	\$0.00	\$0.00	<a href="#">View on Website</a>
76	00427	2004	Ford F150 Pickup	00304		2004	Ford F150 Pickup	00304	258,989	C	\$0.00	\$0.00	<a href="#">View on Website</a>
73	00437	2003	Sierra 1500 Pickup	00033		2003	Sierra 1500 Pickup	00033	84,238	A	\$0.00	\$0.00	<a href="#">View on Website</a>
73	00407	2008	Silverado 1500 Pickup	00775		2008	Silverado 1500 Pickup	00775	108,060	B	\$0,523.71	\$0.00	<a href="#">View on Website</a>
71	00004	2013	Cadillac	00006		2013	Cadillac	00006	15,003	A	\$0.00	\$0.00	<a href="#">View on Website</a>
69	00018	2011	Ford F2500 Pickup	00086		2011	Ford F2500 Pickup	00086	66,739	B	\$0.00	\$0.00	<a href="#">View on Website</a>
66	00413	2013	Jeep	00072		2013	Jeep	00072	26,187	A	\$0.00	\$0.00	<a href="#">View on Website</a>
65	00404	2013	Ford	00033		2013	Ford	00033	11,389	A	\$0.00	\$0.00	<a href="#">View on Website</a>
65	00001	2012	Dodge	00131		2012	Dodge	00131	76,509	B	\$0.00	\$0.00	<a href="#">View on Website</a>
65	00408	2012	Cadillac	00727		2012	Cadillac	00727	85,060	B	\$0.00	\$0.00	<a href="#">View on Website</a>
65	00008	2012	Ford	00074		2012	Ford	00074	40,746	A	\$0.00	\$0.00	<a href="#">View on Website</a>
63	00002	2010	Cadillac	02438		2010	Cadillac	02438	138,003	B	\$0.00	\$0.00	<a href="#">View on Website</a>
61	00012	2009	Cadillac	00078		2009	Cadillac	00078	158,988	B	\$0.00	\$0.00	<a href="#">View on Website</a>
61	00417	2014	Ford	00053		2014	Ford	00053	31,150	A	\$0.00	\$0.00	<a href="#">View on Website</a>
61	00412	2010	Cadillac	00016		2010	Cadillac	00016	68,080	A	\$0.00	\$0.00	<a href="#">View on Website</a>

# Typical Operational Models

## 1. Full Service

- Vehicle is purchased for the main purpose to harvest saleable re-usable parts
  - Parts are catalogued in Inventory Management Systems typically using with Hollander interchange
  - Vehicles are depolluted, dismantled and parts are warehoused
  - Vehicles are crushed after projected parts sales are met (3 months -3 years+)



## 2. Self Service

- Vehicle is purchased for the purpose of both part sales and metal and core value
  - Vehicles are depolluted and staged so that retail customers can harvest their own parts
  - Vehicles are crushed regularly and sent to the shredder (3-6 months)



## 3. Scrap Operations

- Vehicle is purchased for the sole purpose of metal and core value
  - Vehicles are depolluted, various metals separated, and crushed / shredded immediately following
  - Not all operate to the same standard



# Where Do You Get an End of Life Vehicle (ELV)?

## 1. Economic Total Loss

- Collision repair estimate is too high for insurance company to repair so insurance company pays a settlement to claimant and salvage is sold as is



## 2. End-of-Life-Vehicle (ELV)

- Vehicle is sold or traded in as it is no longer fit for the road.
- This can come from OEM re-call, vehicle collection programs (ie: 'Cash for Clunkers') or private sale





# How Do We Depollute an 'ELV'

## What is removed by a 'Professional Auto Recycler'

- Fuels
  - Gasoline, diesel, propane
- Oils and fluids
  - Engine oil, A/T fluid, Gear oil, power steering fluid,
- Coolant, WWF, brake fluid
- Refrigerants
- Lead-acid batteries, NiMH Batteries, Li-ion Batteries
- Hazardous metals
  - Lead battery cables, lead tire weights, mercury containing devices
- Tires



# Key Revenue Centers

## There are four main revenue streams for auto recyclers

1. Recycled mechanical parts
2. Recycled body parts
3. Metal recycling
4. Remanufacturing industry



# Customer 1: Mechanical Repair Industry

## Mechanical Parts

- Mechanical parts for mechanical failures
  - Used parts are harvested from vehicles and undergo a quality inspection before being re-sold to the consumer
  - Mechanics shops, retail public, used car dealers, exporters and warranty companies are the primary customers



## Insurance Repairs

- Many insurance estimates rely on recycled parts to repair claims
  - In North America, Audatex, Mitchell and CCC all have integrated recycled parts look ups for insurance estimates
  - Insurance companies themselves have developed software to enable estimators to source recycled parts
    - Intact Insurance – ProgiParts
    - State Farm – Parts Trader



## Collision Repair Industry

- Use estimating software
- Rely on local suppliers, or online networks to source recycled parts (ie: car-part.com)

## Major supplier to the ferrous industry, but others too

- Steel
  - Biggest returns, most content
  - Can be broken in to No.1 Steel, scrap steel, cast iron, etc.
- Catalytic Converters
  - Platinum, palladium, rhodium, and gold
- Aluminum (clean and dirty)
  - Primarily wheels, radiators
  - Growing structural content
- Lead
  - Batteries, wheel weights, battery clamps
- Copper
  - Difficult to process, mostly wire harnesses, scrap alternators and starters
- Other?
  - NiMH / Li-ion batteries, circuit boards, etc.



# Customer 4: Remanufactured Parts Industry

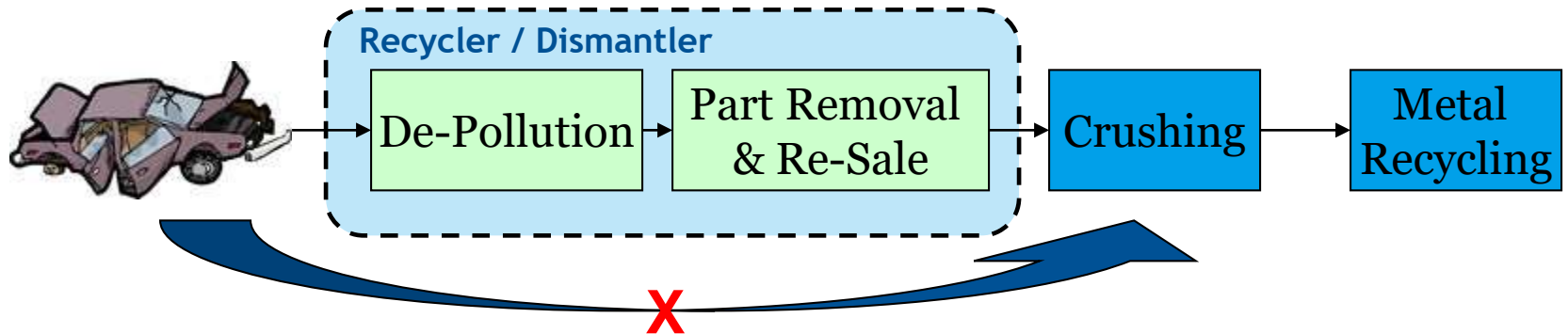
## Cores

- This is the biggest growth sector in auto recycling in many years
- Core buyers have developed extensive buying software tools that mine auto recyclers inventory to supply their industry
- Auto recyclers can recycle components of parts rather than whole functioning units



## Regulated Standards for processing ELVs

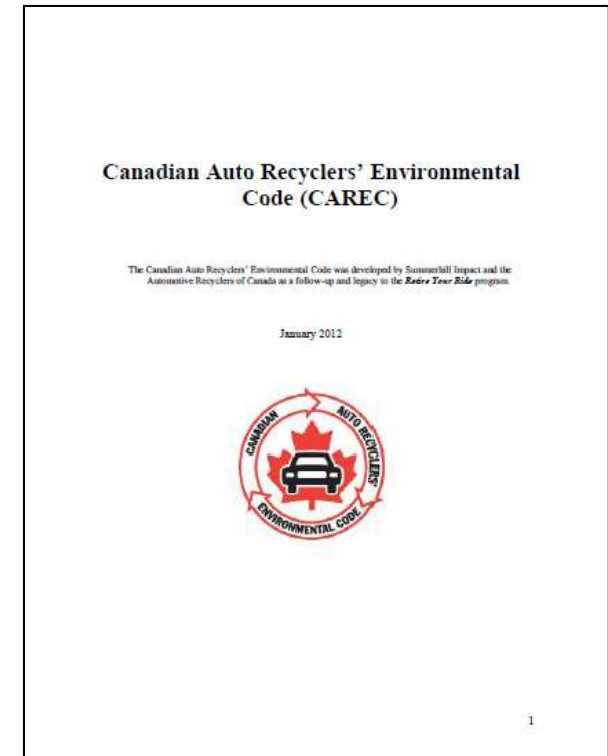
- There are currently no regulated standards for processing ELVs
  - High base-metal recycling rate for ELVs, but many not processed properly before recycling
  - ODSs, Mercury, Used Oil, etc. are released to the environment (contrary to prohibitions under laws)
  - More profitable to not to “de-pollute” - commodity business driven by least cost and production volume





## Auto Recyclers of Canada (ARC)

- National association of auto recyclers
  - 7 provincial associations
  - 410 Members (out of 1,600 “legal” businesses)
  - Organized in 1997 Canadian Auto Recycling Environmental Code (CAREC)
- Canadian Auto Recycling Environmental Code (CAREC)
  - All members of ARC must comply and be audited to CAREC
  - Canadian Council of Ministers of the Environment has recognized CAREC as a starting point for a common level of ELV recycling in Canada







- Ontario and PEI are about to commence regulated ELV processing standards
  - Ontario will create a registry for ELV processors and a standard will apply to all vehicles processed under the registry
  - PEI has drafted and is enforcing materials stewardship regulations specific to the processing of ELVs in the province
  - Other provinces and members of ARC are pushing to enforce similar regulations



## **Automotive Recyclers Association (ARA)**

- eCar – [ecarcenter.org](http://ecarcenter.org) – communication portal for environmental standards
- NMVTIS – 95% of US members follow this
- CAR and Gold Seal Certification programs
- ARAU – University to train auto recycling specific best practices, regulations and standards – [www.arauniversity.org](http://www.arauniversity.org)

## **Environmental Protection Agency (EPA)**

- Every Auto Recycler must hold NPDES (National Pollution Discharge Elimination System) for Storm Water
- Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – Hazardous communication Standard (HCS)
- Used Oil and Antifreeze disposal requirements



## EPA

- Recycling resources are not enough to manage ELVs that are generated in Mexico every year

ELV reception centers	27 authorized centers.
Properties for sale of used auto parts	5,888 Junkers.
Hazardous waste treatment for ELV	1,251 authorized plants. Capacity of 14,572 thousand tons.
CFCs recycling plants.	14 licensed plants.
Car batteries	5 authorized recycling plants.
Scrap Traders	4,448 traders.
Crushers	10 authorized crushers.
Scrap recycling complex	8 steel complex.
Disposition of ASR	128 Landfills.

- The lack of operations standardization and control during vehicle dismantling causes that the operating fluids are discharged into sewerage systems or spilled on the ground in many cases.
- CFC gases are emitted when ELV recycling is taking place



## British Vehicle Salvage Federation

### Code of Practice for the disposal of motor vehicle (DRAFT)

#### Created and Supported by these organizations:

- Association of British Insurers (ABI), Lloyd's Market Association (LMA), British Vehicle Salvage Federation (BVSF), British Vehicle Rental and Leasing Association (BVRLA), Motor Vehicles Dismantlers Association (MVDA), the Association of Chief Police Officers (ACPO) / Association of Chief Police Officers Scotland (ACPOS), Trading Standards Institute, the Home Office (HO), the Department for Transport (DfT), the Driver, and Vehicle Licensing Agency (DVLA), Driver and Vehicle Licensing Northern Ireland (DVLANI)<sup>1</sup> and the Driver Vehicle, Standards Agency (DVSA).



## **Code of Practice for the disposal of motor vehicle (cont.)**

- Gives advice on the steps to be taken in the treatment of vehicle salvage and recovered stolen vehicles.
  
- Breaks these vehicles down into 3 categories
  - Break (B) – Not suitable for repair, parts can be re-used
  - Structural (S) – Structural frame damage, owner/insurer decided not to repair
  - Non-Structural (N) – No structural damage, owner/insurer decided not to repair



## EU Directive Target to achieve 95% Recycling by 2015

**Many facilities are focused more on metals recycling than component re-use**

## The International Dismantling Information System (IDIS)

- IDIS is a system for treatment information for End-of-Life Vehicles (ELV) - 39 countries and 30 different languages.
- Information about current vehicles, but also – as a service on voluntary basis - information for vehicles which were put on the market before EU ELV directive came into effect. Covering currently 1968 different models and variants from 70 car brands.

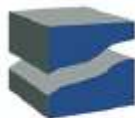


## International Automotive Recycling Congress (IARC)

- Purpose is to discuss latest developments and challenges for the manufacturing and end-of-life vehicle (ELV) businesses
- Brings together the various links in the ELV recycling chain such as car manufacturers, metals and plastics scrap traders, recyclers, shredder operators and policy-makers from all over the world



**AUTO ALLIANCE**  
DRIVING INNOVATION®



ACEA

**EUROBAT**



**CLEPA**  
European Association of  
Automotive Suppliers



**JAMA**

**JARA**  
Japan Automotive Recyclers Association

**PlasticsEurope**  
Association of Plastics Manufacturers

## International Round Table on Auto Recycling (IRT)

- Brings together the leading international automotive recycler associations, industry officials, guest speakers and local auto recyclers to discuss the global auto recycling industry
- Environmental Standards, Public Awareness, Government Engagement, Manufacturers Support, Industry Stewardship, Education and Training, and Research Information Sharing





## Environmental Ingredients

- What is the car made of and what do we have to dispose of?



## Employee Safety

- What hazards will ELV handling and dismantling pose to employees of auto recycling facilities?



## OEM Risk Reduction

- Auto recyclers can reduce the risk to an OEM by properly quarantining parts



## Consumer Safety

- We must ensure the consumer is safe, how do we ensure that safety?





**What is the car made of? What do we have to dispose of? What components do we want to recover?**

- Reclaimable metals
- Rare earth metals
- New materials recycling
- Hazardous materials



**Auto Recyclers help to ensure higher quality metals are reclaimed, and hazardous materials are properly disposed of**



## What hazards will ELV handling and dismantling pose to employees of auto recycling facilities?

- Electrical
  - High Voltage hybrid and EV batteries
- Chemical
  - Compressed air and chemical inflators
  - Acids and oils harmful to touch, inhale, etc.
- Potential Energy
  - Risk of falling components due to incorrect dismantling procedures



## **Auto recyclers can reduce the risk to an OEM by properly quarantining parts**

- Auto recyclers handle the majority of ELVs
- History has shown that partnering with Auto Recycling associations can ensure proper mechanisms are employed (Toyota, Ford, GM)
  - Vehicles will be guaranteed not be returned to service
  - Unfit parts for resale can be quarantined and disposed of
- Have some interchange to sell parts, however not accurate enough to properly ensure all parts could be properly quarantined in the event of a recall



## **We must ensure the consumer is safe, how do we ensure that safety?**

- Ultimate concern for auto recycling customers and OEM is for consumer safety
- OEM data sharing and build specifications are critical to ensure that consumers are properly protected

## **A refined and professional industry**

- Historically a profitable business, but has been refined over the years to be a professional and reputable industry
- Different standards and organization in all countries

## **Growing and developing standards**

- National accreditations are becoming necessary for associations
- Associations are pushing for licensing and regulations

## **OEM Data is key to future**

- Ensures environment, employee safety, OEM risk support, and consumer safety are preserved

# THANK YOU! – Q&A?

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