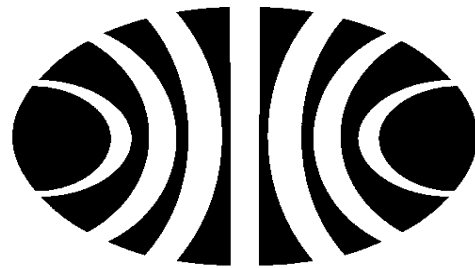


Annual Sustainability Report



AXYS Technologies

2013 - 2014

Verified By	Zack Simon
Email	zack@synergyenterprises.ca
Completed	6/3/2015

synergy

Executive Summary

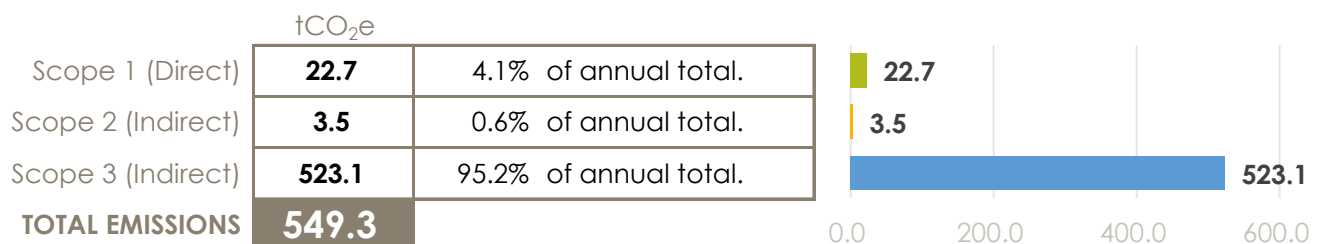
AXYS Technologies designs, manufactures and installs remote environmental monitoring systems that can measure and record a variety of climate data. Based in Sidney, BC, their products are shipped and used globally. This is the first Annual Sustainability Report for AXYS measuring the 2013-2014 fiscal year and will be considered the baseline for all future reports. The scope includes Fuel, Electricity, Water, Waste, Paper, Shipping, Service calls, and Staff Commuting and will be expanded in future years to include Company Travel.

AXYS Technologies is a fast growing company. Increasing production requirements means that AXYS will be taking on more staff and expanding their space. Their goal is to keep emissions constant while growing their business.

Company Information

Company Name	AXYS Technologies		
Contact Information	Robin Thomsen	rthomsen@axys.com	250-655-5860
Company Description	Office and warehouse space spread across two company-owned buildings.		
Reporting Period	April 1st, 2013 - March 31st, 2014		
Inventory Boundary	Scope 1 (Direct Emissions) - Gasoline, Diesel, Propane		
	Scope 2 (Indirect Emissions from Purchased Electricity) - Purchased Electricity (BC Hydro)		
	Scope 3 (Indirect Emissions from Other Sources) - Water, Waste, Stationary, Paper Products, Shipping, Service Calls, Staff Commuting		
Primary Measurement	Carbon Dioxide Equivalent (CO ₂ e)		
Reporting Guidelines	Aligned with those defined in <i>The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (The GHG Protocol, www.ghgprotocol.org)</i> . Emissions factors reviewed & approved by Offsetters.		

Inventory Results



Summary

AXYS Technologies

2013 Report



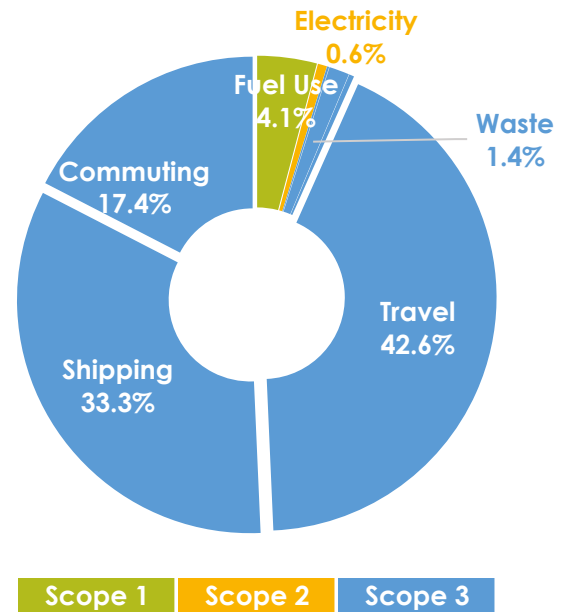
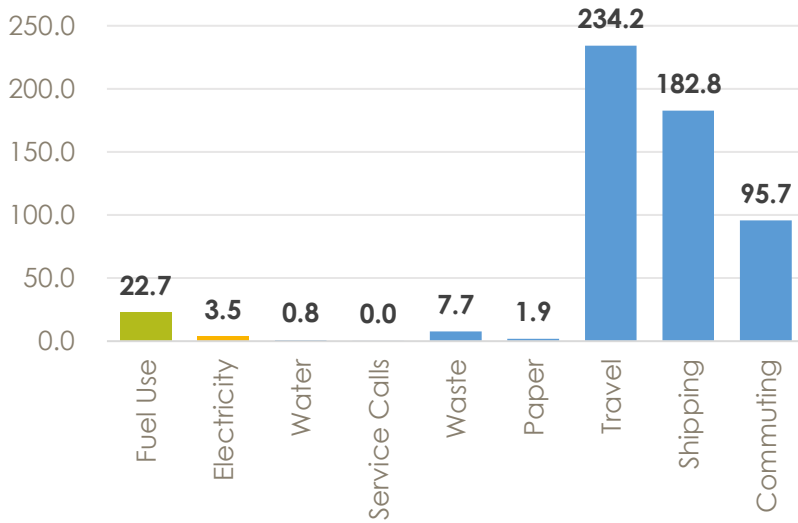
Total emissions: **549.3** tCO₂e

Offset cost: **\$10,986**

The baseline carbon footprint for AXYS Technologies comes to 549.3 tCO₂e, equivalent to the annual emissions of 16.1 homes or 153.7 cars on the road for one year. This is above average for a typical office.

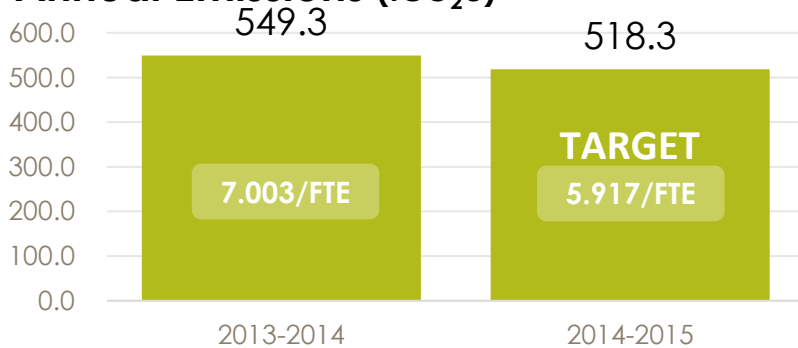
Carbon Footprint (By Activity)

Emissions by Activity (tCO₂e)



Carbon Footprint

Annual Emissions (tCO₂e)



	tCO ₂ e Per Year	Change since Baseline	
		tCO ₂ e	Percent
2013-2014	549.3		
2014-2015	518.3	31.0	5.6%



1,732.8

Barrels of Gas



153.7

Cars per Year



16.1

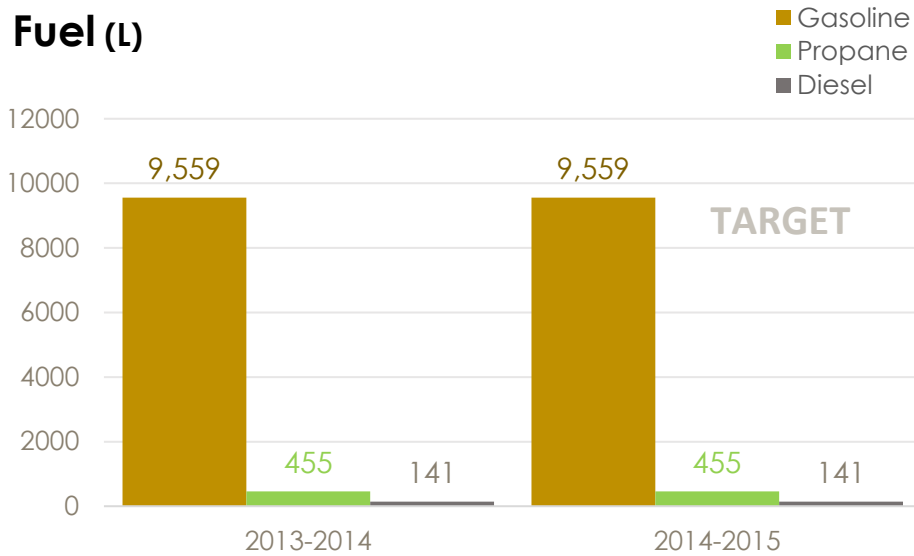
Households

tCO₂e
(Total)

549.3

Fuel Use

Fuel (L)



Analysis

Fuel use accounts for 4.1% of AXYS's overall carbon footprint. Gasoline and diesel were used for company vehicles, while propane was used for the forklift in the warehouse. Maximizing telecommuting opportunities and providing alternatives for sustainable travel can help reduce fuel use.

*Note: Goal set to remain constant as company grows.

Litres / FTE

225.7

tCO₂e

22.7

% of Total

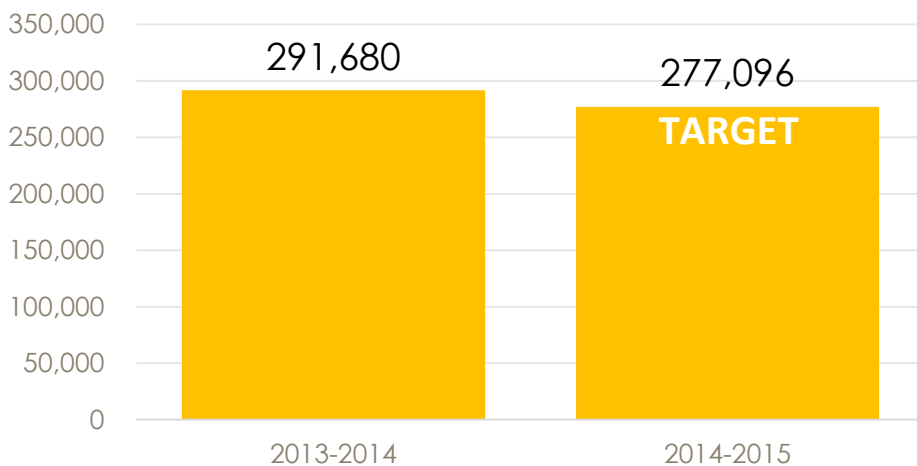
4.1%



6.3
Cars / Year

Electricity

Electricity (kWh)



Analysis

Electricity use accounts for 0.6% of AXYS's overall carbon footprint. Energy use per square foot is above average for a typical office space, which is expected due to the large amount of technology equipment used. Lighting has been upgraded to high efficiency bulbs, but there are still opportunities for energy reduction in HVAC, servers and behavioural changes.

*Note: Goal set at 5% reduction to account for company growth

kWh / ft²

22

tCO₂e

3.5

% of Total

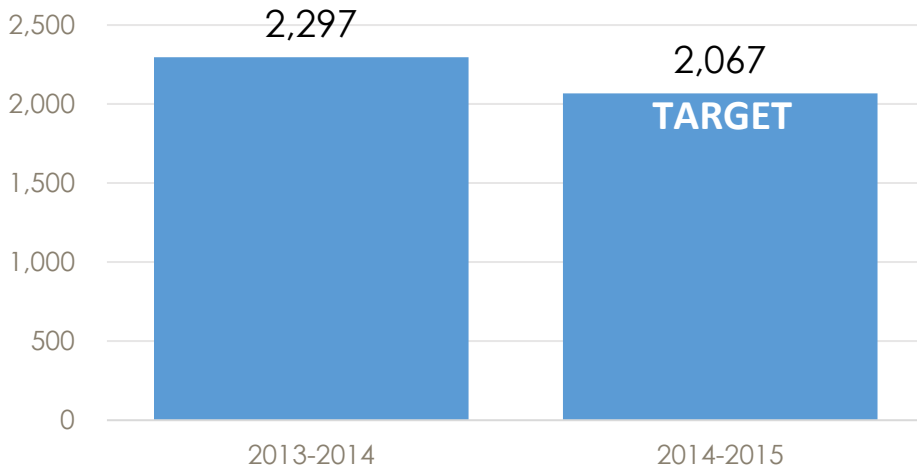
0.6%



26.5
Houses

Water

Water (m³)



Analysis

Water use is above average for similar offices, which is expected considering the manufacturing conducted at AXYS. Fresh water is used to cool down the Wind Sentinel - staff suggested using a rain water reservoir as an alternative. Showers available for staff use in 2013-2014 will not be used in 2014-2015, further contributing to the projected reduction in use.

*Note: Goal set at a reduction of 10%, pending the results of the CRD water audit.

m³ / ft²

0.2

tCO₂e

0.8

% of Total

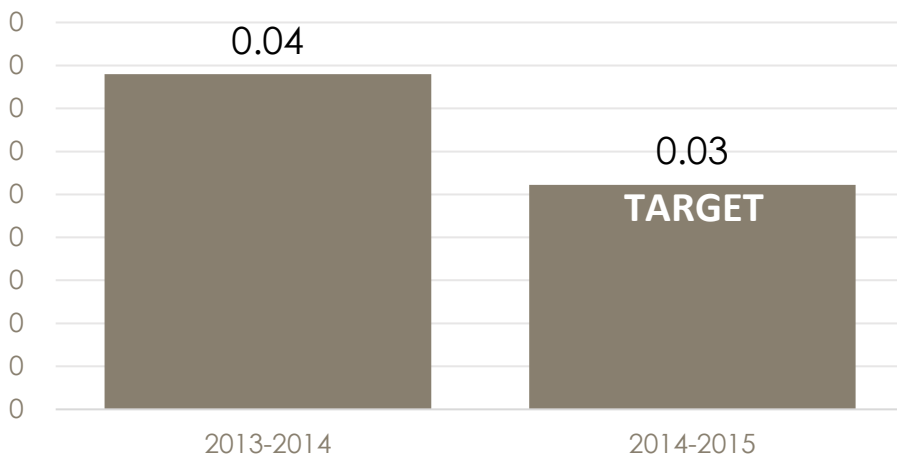
0.1%



10,461
Baths (50gal)

Service Calls

Emissions (tCO₂e)



Analysis

AXYS receives an average of three deliveries per week. Most of these deliveries are from Monk Office. Although these deliveries account for less than 1% of AXYS's total carbon footprint, reduced emissions and administrative efficiencies can be achieved for the accounting department by limiting deliveries to once per week.

*Note: Goal set to reduce total visits to average 2 per week.

Visits/
Week

3

tCO₂e

0.04

% of Total

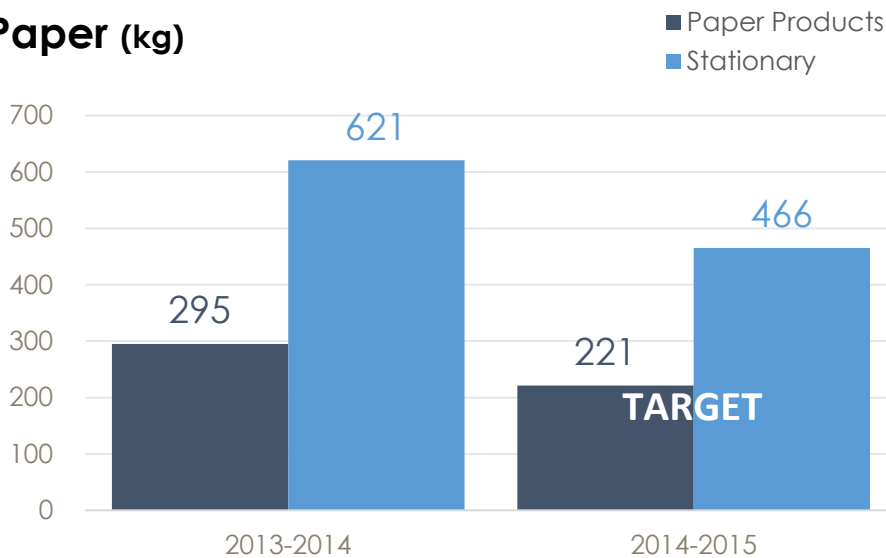
0.01%



0.01
Cars / Year

Paper

Paper (kg)



Analysis

All paper purchased for AXYS is of the highest recycled content available. Reducing printing by streamlining internal systems was identified by many staff as a key initiative they would like to see implemented. Installing air hand dryers in the washrooms would also significantly reduce paper use.

*Note: Goal set to reduce paper use by 25% based on staff identification of potential paperless systems and the installation of air hand dryers.

Treeless Content

67%

tCO₂e

1.9

% of Total

0.4%

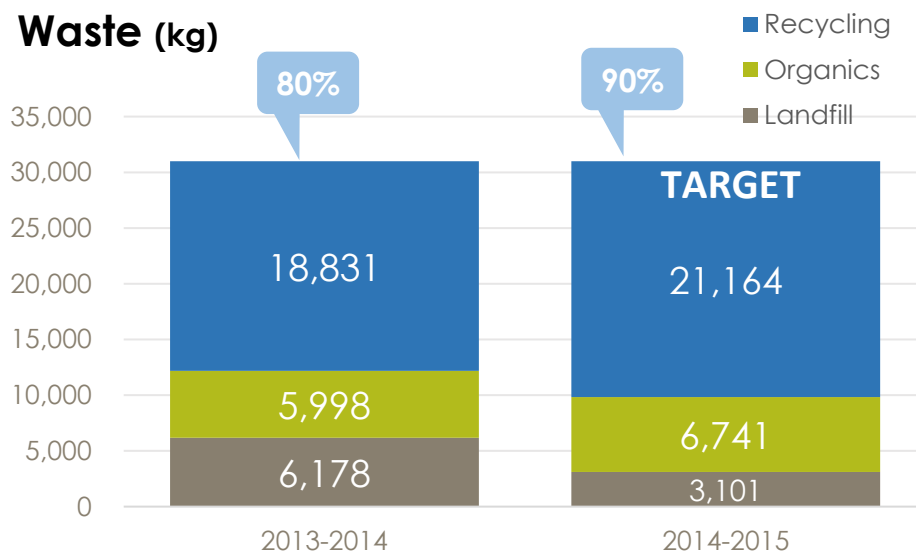


8.0

Trees / Year

Waste

Waste (kg)



Analysis

AXYS Technologies diverts a total of 80% of their waste from the landfill. New streams including soft plastics and batteries have recently been introduced. Organized sorting stations and custom signage will help maximize the current systems.

GOAL: 90% diversion

*Note: AXYS Technologies shares their waste management program with AXYS Analytical; percentages have been calculated based on the number of employees in each company.

kg / FTE

689

tCO₂e

7.7

% of Total

1.4%

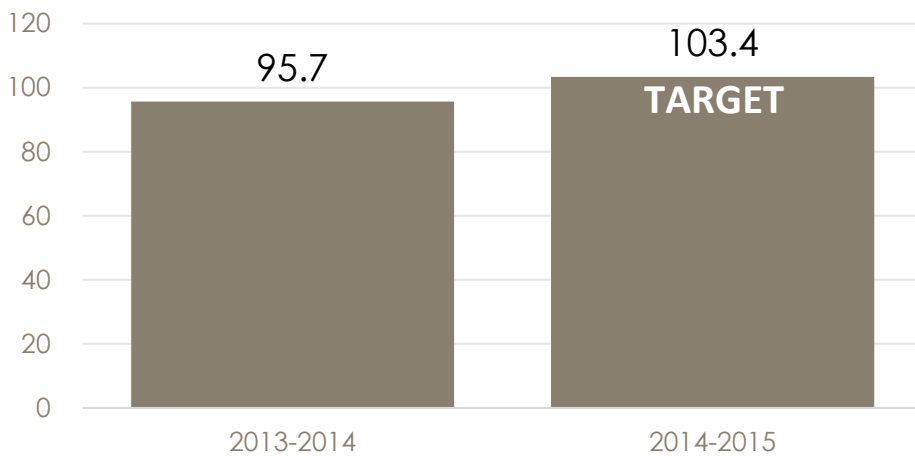


80.0%

Diversion Rate

Commuting

Emissions (tCO₂e)

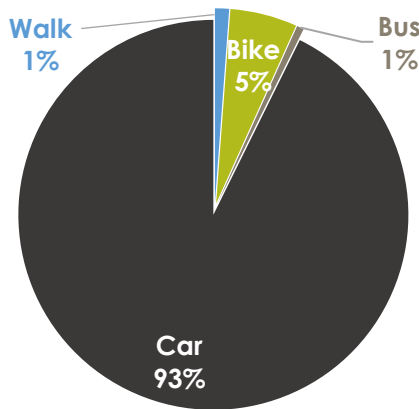


Analysis

Staff commuting accounts for 17.4% of AXYS's overall carbon footprint and is equivalent to the emissions from nearly 27 cars per year. Company incentives for carpooling, biking and busing to work can help to reduce emissions resulting from staff commuting.

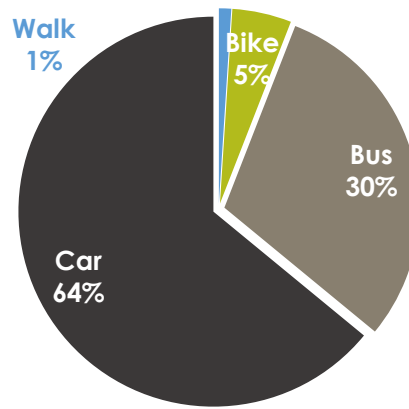
* Note: Totals calculated based on an 88% response rate from staff

Commuting Percentages by Method per Day



Baseline (2013-2014)

Average tCO ₂ e/FTE	2.127
Low-Emission Commuting %	7%



Target (2014-2015)

Average tCO ₂ e/FTE	1.914
Low-Emission Commuting %	36%

Analysis (Breakdown)

Only 7% of AXYS staff commute to work using low-emission methods. Strategies to increase this number include offering subsidized bus passes, educating staff on biking options (including the Lochside Trail from Victoria to Sidney), and facilitating office carpools. Making staff aware of their own contribution to the carbon footprint is a good way to engage them in the sustainability program. Tracking average tCO₂e per full-time employee will allow AXYS to measure improvements over time, as the company grows and staff increase.

* Note: Totals calculated based on an 88% response rate from staff

kgCO₂e / km **0.215**

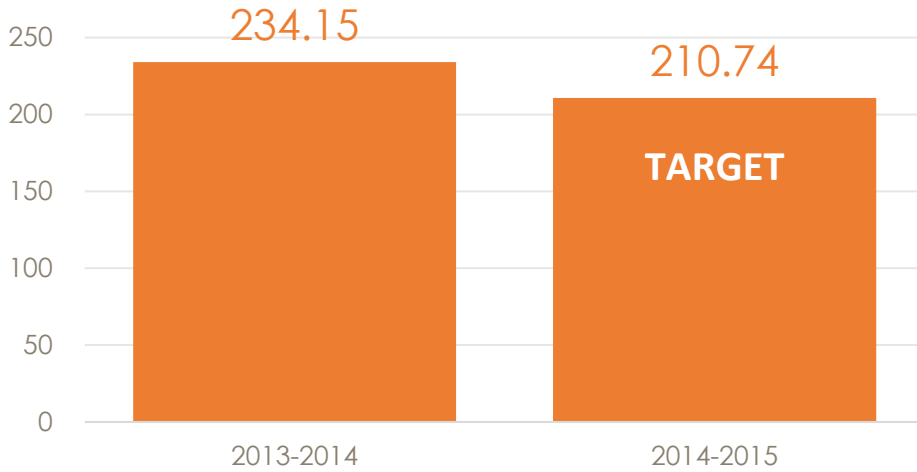
tCO₂e **95.7**

% of Total **17.4%**

 **26.8**
Cars / Year

Travel

Emissions (tCO₂e)



Analysis (Historical)

Travel was by far the largest portion of the company's carbon footprint, accounting for 234 tonnes of CO₂e. AXYS made roughly 50 trips in 2013-2014, with up to 12 employees traveling at the same time. By limiting the number of staff on each trip and maximizing telecommuting opportunities, AXYS will be able to reduce the impact of their travel.

* Note: Target is set to reduce emissions by 10%

tCO₂e /
FTE

5.203

tCO₂e **234.2**

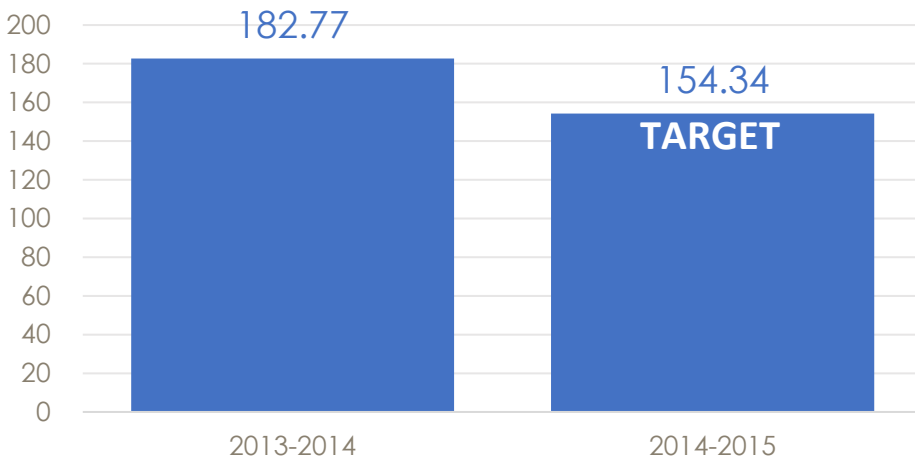
% of
Total

42.6%

65.5
Cars / Year

Shipping

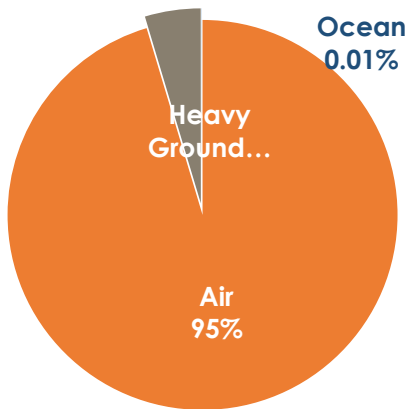
Shipping (tCO₂e)



Analysis

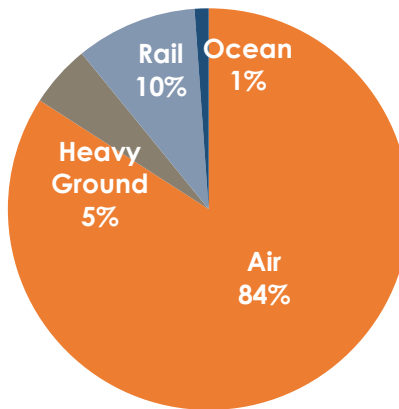
Shipping accounted for one third of the total carbon footprint. Since AXYS clients are located internationally, shipping products is a necessary aspect of the company's operations. In 2013-2014, AXYS made over 250 individual shipments, averaging 0.7 tCO₂e per shipment.

Shipping Percentages by Tonne-Kilometers



Baseline (2013-2014)

Average kgCO ₂ e/t-km	1.345
Low-Emissions Shipping %	0.0%



Target (2014-2015)

Average kgCO ₂ e/t-km	1.136
Low-Emissions Shipping %	10.9%

Analysis (Breakdown)

The most common shipping method for AXYS is by air. The carbon factor associated with air shipping is roughly 33 times higher than heavy ground shipping, while emissions from rail and ocean transportation are even lower. Although more expensive, shipping by air is often chosen because it is faster and can be more direct than ground or ocean shipping. Working with the production and shipping team to develop a strategy to reduce air shipping will result in reduced emissions and shipping costs.

* Note: Low emission shipping is considered rail or ocean.

tCO₂e / Shipment **0.708**

tCO₂e **182.8**

% of Total **33.3%**

 **51.2**
Cars / Year

Carbon Reduction Strategy

As a company that contributes to a better understanding of our climate and environment, AXYS is perfectly positioned to be a leader in business sustainability. By measuring and working to reduce their own carbon footprint, AXYS is demonstrating their commitment to a healthier environment.

The largest emission sources at AXYS were staff commuting, shipping and fuel use. Efforts to reduce emissions in these areas will have the greatest impact. An Action Plan has been developed to identify key actions for reducing emissions and environmental impact which will be implemented over the next year. By implementing changes, AXYS will be able to maintain a similar level of emissions as the company continues to grow in size and scope.

Achievements

- CRD water audit
- Completed Green Business Bureau assessment
- Comprehensive recycling program, including a variety of packing materials
- Packing materials are saved and reused for outbound shipments
- Formed a "Green Team" within staff to help implement green initiatives

Moving Forward

GOALS

- Achieve Green, the highest level from the Vancouver Island Green Business Certification
- Reduce shipping emissions by 15%
- Increase waste diversion rate to 90%

ACTIONS

- Switch to green cleaning products
- Increase signage at waste stations to ensure proper sorting
- Reduce paper use by moving to digital file storage
- Install air hand dryers

Information on Inventory Uncertainty

* AXYS Technologies shares a waste program with AXYS Analytical; percentages have been calculated based on employees per company.

* Travel data includes final destinations only, since exact flight paths were not available. However, it was important to have a rough estimate for this baseline year.

* Shipping data was collected for all shipments 1kg or larger. This does not include all items shipped, but covers the vast majority of activity.

Emissions References

1. 2013 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions
<http://www.env.gov.bc.ca/cas/mitigation/pdfs/BC-Best-Practices-Methodology-for-Quantifying-Greenhouse-Gas-Emissions.pdf>
2. Environment Canada's National Inventory Report (1990-2011)
http://publications.gc.ca/collections/collection_2013/ec/En81-4-2011-2-eng.pdf
3. Department for Environment, Food & Rural Affairs (UK) Carbon Factors
<http://www.ukconversionfactorscarbonsmart.co.uk/>
4. Intergovernmental Panel on Climate Change (Global Warming Potentials)
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

All emissions factors are reviewed and approved by Offsetters (www.offsetters.ca) on an annual basis.

Glossary of Terms

Term	Description
CFL	Compact Fluorescent Light
GHG	Greenhouse Gas (emissions): Atmospheric gasses contributing to the greenhouse gas effect, including Carbon Dioxide (CO ₂), Methane (CH ₄), Nitrous Oxide (N ₂ O), etc.
GJ	Gigajoule: Unit of natural gas equal to 38.26 L or 26.137 m ³
HVAC	Heating, Ventilation & Air Conditioning
KPI	Key Performance Indicators (Highlights)
kWh	Kilowatt-Hour: Common unit for measuring electrical consumption
LED	Light Emitting Diode: A form of highly efficient lighting technology
m ³	Cubic Meter: Unit of measurement equal to 1,000 Litres
PCR%	Post-Consumer Recycled Content (as a percentage)
psg-km	Passenger-Kilometer: Unit separating total emissions between passengers per km
Ream	Standard unit of paper measurement equal to 500 sheets (with 10 reams in one box)
T12/T8/T5	Models of common fluorescent tube lighting
tCO ₂ e	Tonnes of Carbon Dioxide Equivalent: GHGs have different warming potentials, measured collectively as CO ₂ equivalent (hence "e")
t-km	Tonne-kilometer: A unit of measurement used in shipping

Verified By	Zack Simon
Email	zack@synergyenterprises.ca
Completed	6/3/2015

