



National Institute of Environmental Health Sciences
Your Environment. Your Health.

NIEHS Printer Policy & Paper Reduction Efforts



Bill Steinmetz

**Environmental Compliance Specialist
National Institute of Environmental Health Sciences**

National Institutes of Health • U.S. Department of Health and Human Services



NIEHS Mission & Research Summary

- Our Mission

- Discovering how the environment affects people in order to promote healthier lives
- Part of the National Institutes of Health (NIH)

- Our Research

- Intramural (RTP Research Programs)
 - Research performed by Federal government scientists in the RTP Campus laboratories
- Extramural (Grants Program)
 - Funds laboratory research, population-based studies, and training programs at universities, hospitals, businesses, and organizations around the country

- Priority Research Areas

- Autism, cancer, nanomaterials, metals toxicity, pesticides, Superfund
- We produce knowledge

NIEHS History



- Located in RTP since 1966 / Moved to current campus in 1982
- Campus features: research labs / office space / cafeteria / utility plant / warehouses, 27 acre lake
- 500 acres shared with EPA research facility
- 1300 employees (~400 are contractors)



Overview

- Printer policy development
- Measuring progress
- Accomplishments
- Future direction
- Questions



Printer Policy Development – Recycled Content Paper

- NIEHS initially required to use 30% post consumer recycled content paper in accordance with Executive Order 13101 - Greening the Government (1998)
- NIEHS Management tasked EMS Team with investigating use of 100% instead of 30% recycled content printer/copier paper
- EMS Team worked with warehouse staff to acquire 100% recycled content paper and had CSP blind test theory that paper would curl and jam printers
- Outcome: NIEHS converts to 100% recycled content paper as no jams reported (2013)

Recycled Content Paper - Success At A Cost

- Paper cost per case (box) increases from \$35 to \$50
- Paper usage rate remains unchanged (using same amount of paper but now it costs more)
- Management asks EMS Team to develop strategy for reducing paper costs
- EMS Team evaluates printer / paper data and determines that overarching printer policy is needed



Printer / Paper Data Sources

- Determine metrics for tracking progress
- May need to use surrogate data
- Avoid changing data types and units of measure

Data - Paper Usage Surrogate

- Used 8½” X 11” printer/copier paper as benchmark for all paper types
 - Pros: standard size with consistent and high usage
 - Cons: missing data, does not include posters, etc.
- Fiscal year paper purchases used as surrogate for total sheets of paper
 - Pros: data readily available and easily managed
 - Cons: data outliers created by purchase cycle



Data - Printer Inventory

- Printers are considered accountable government property
- Accountable property status must be tracked via inventory
- Property inventory is near real time
- Inventory is accessed for printer count early in the fiscal year

Data – Printer Cartridge Usage

- All printer cartridges are collected for reuse / recycling
- Collection occurs about every other month
- Cartridges are counted and weight is calculated for recycling data
- Toner cartridges are the surrogate for printer cartridges
 - Majority of NIEHS printers are laser / toner variety
 - Toner cartridges support more print jobs than ink jet

Policy Development – 2014 Benchmarking Results

- Paper usage = ~3700 sheets of paper / year / employee
- Printer population = 1066 printers for 1200 employees
- Ink cartridges = ~950 toner cartridges per year
- Printer service = 1100 service tickets per year

Printer Policy Development

- Assembled team and developed policy language
 - Environmental, Warehousing, Acquisitions, Computer Support
- Presented to management council for review
- Presented to leadership for approval
- Endorsed by Institute Director in October 2015

Printer Policy Components

- Develop paperless forms, workflow processes, & electronic signature capabilities
- Reduce desktop printer population, standardize printer fleet, and move toward centralized printing
- Default printer setup to duplex print jobs
- Reduce paper & ink consumption
- Follow HHS energy management requirements
- Provide education that promotes printing alternatives



Policy exemptions

- Remote buildings / branches with multiple office locations
- High volume printers at the Copy Center used for publications
- Specialized functional needs
 - Printers attached to laboratory analytical equipment
 - Plotters for construction drawings
 - Health unit medical records



Promoting The Policy

- Online newsletter articles
- Posted on the internal website
- All-hands email from Institute Director
- Director's Quarterly All-Hands Meetings
- Survey of Office of Management personnel
- Printer / paper reduction reminders during research laboratory walkthroughs

Examples of Efforts

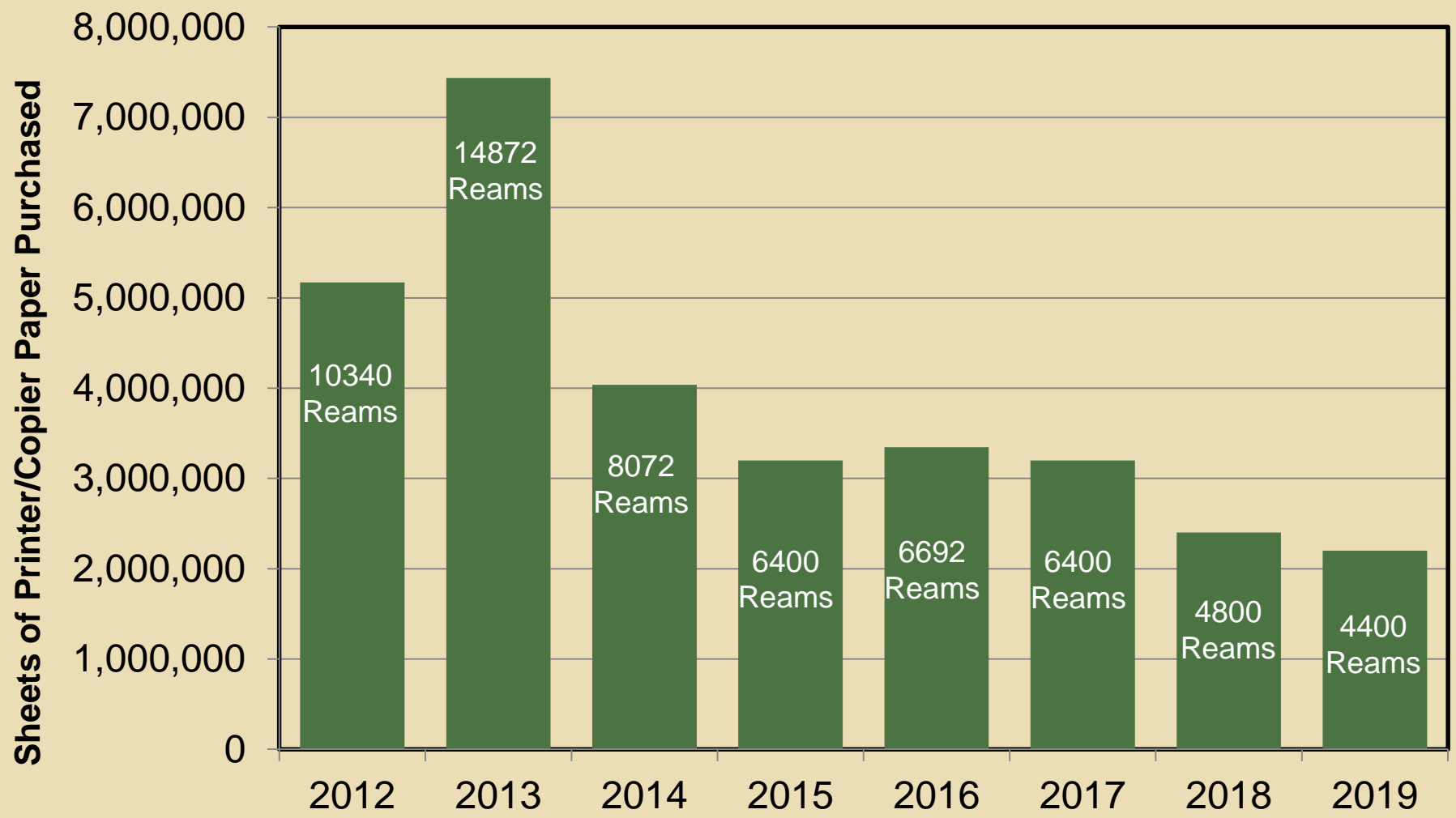
- Networked multifunction centralized printer/scanner/copiers so that users could scan documents and forward electronically instead of making hardcopies
- Provided training so personnel could learn how to use e-signatures on PDF documents and distribute via email
- Moved performance appraisals, travel authorizations, warehouse receiving, training certificates, construction plan review and mobile device service requests to electronic platforms
- Set up conference rooms with projectors for paperless meetings run by laptop
- Educated staff on paper and ink saving measures

Paper & Ink Savings Education

- Printing double-sided can reduce paper usage by up to 50%
- Reducing default margin settings from 1.0” to 0.75” reduces paper usage by 5%
- Reducing default word processing font size from standard size 12 to size 11 reduces paper usage by 8%
- Using draft quality or eco printer ink setting reduces ink usage by around 10 percent
- Review documents electronically, preview before printing, and shrink to fit to avoid text carryover to an additional page



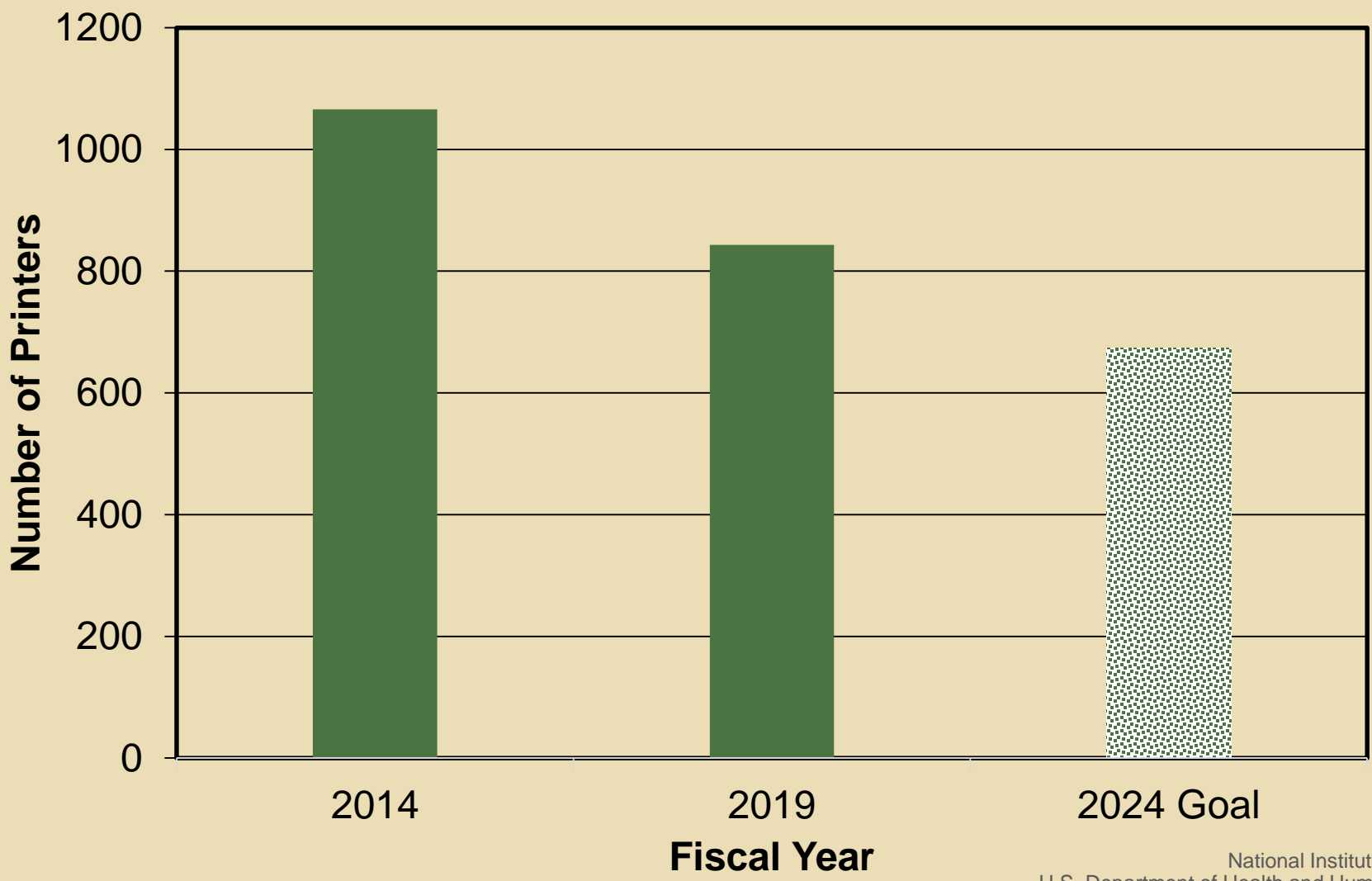
NIEHS Paper Usage History



Fiscal Year

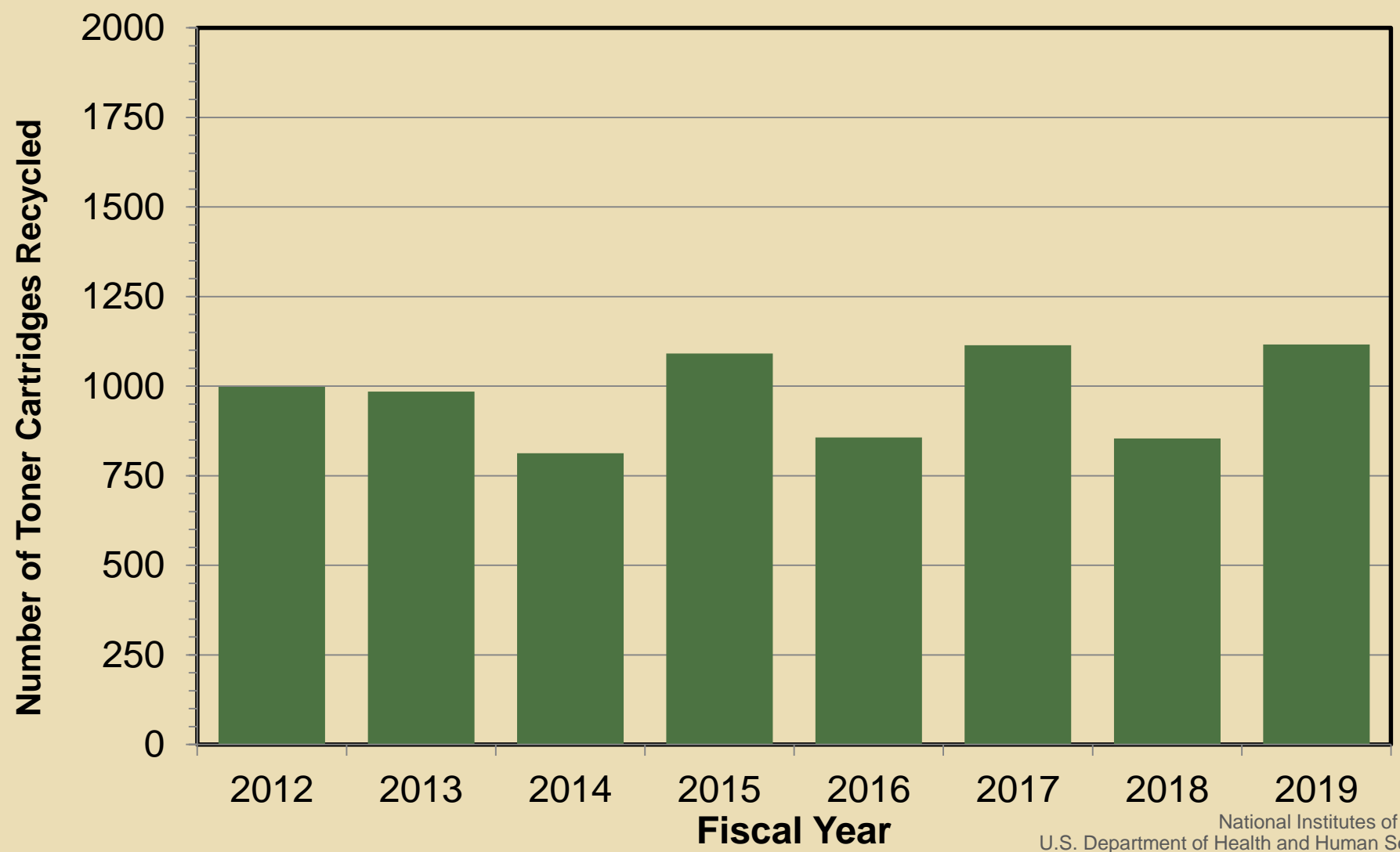


NIEHS Printer Population Trend



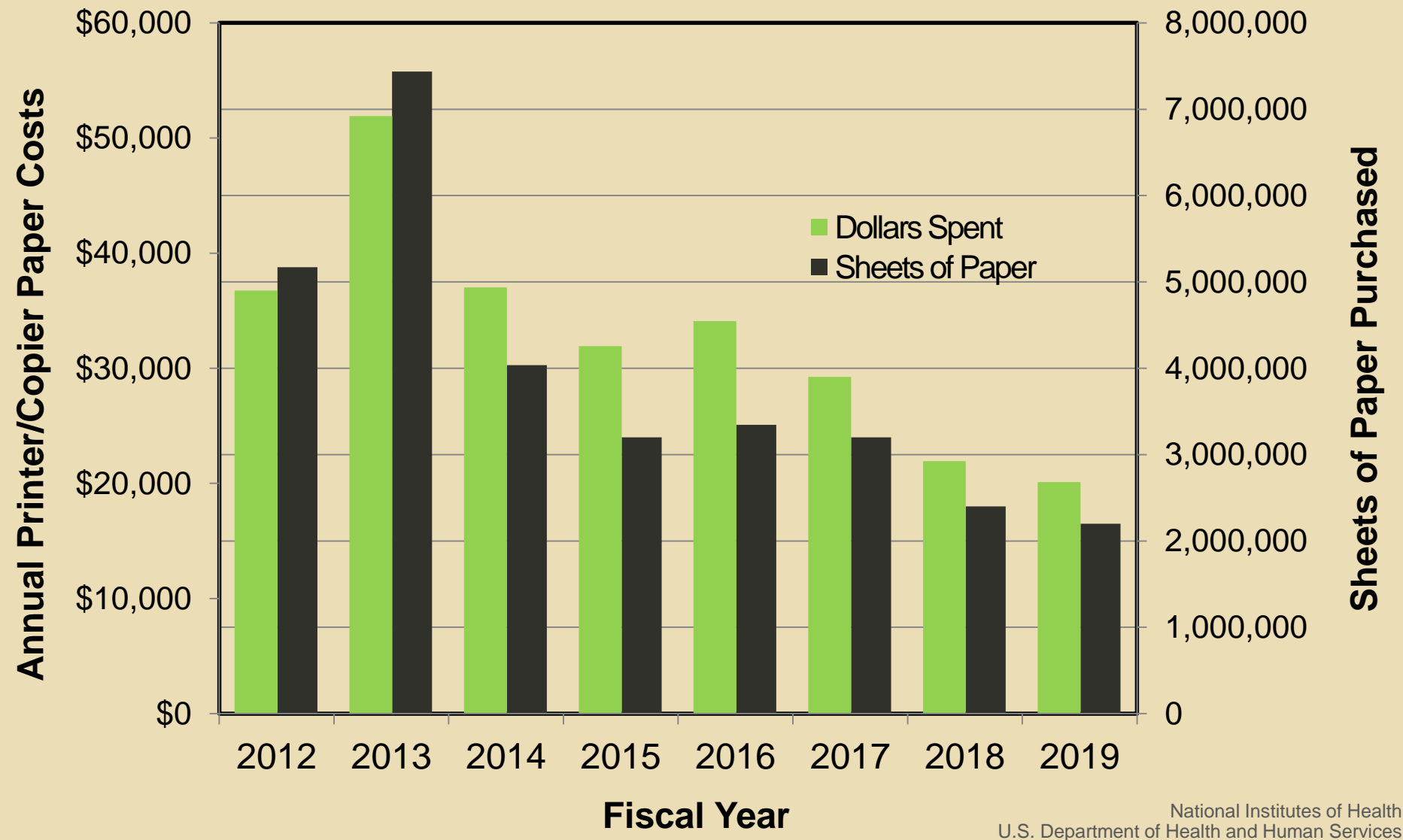


Toner Cartridge Recycling History





NIEHS Paper Acquisition Cost Versus Usage





Policy challenges

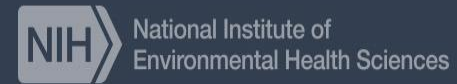
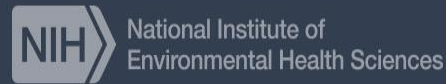
- Printer entitlement
- Existing cubicle cities
- Adaption to change
- Confidential print jobs
- Printer purchase requests must be justified by employee and approved by their manager



Future direction & COVID-19 pandemic effect

- Update and promote printer policy
- Focus on reducing printer population
- Default printers to black & white
- Evaluate paper usage during Covid teleworking
- Teleworking without printers should have forced behavior change that can be carried into the future

Questions, Comments, & Suggestions



Health Sciences

