



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

# NIEHS Printer Policy & Paper Reduction Efforts



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## 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

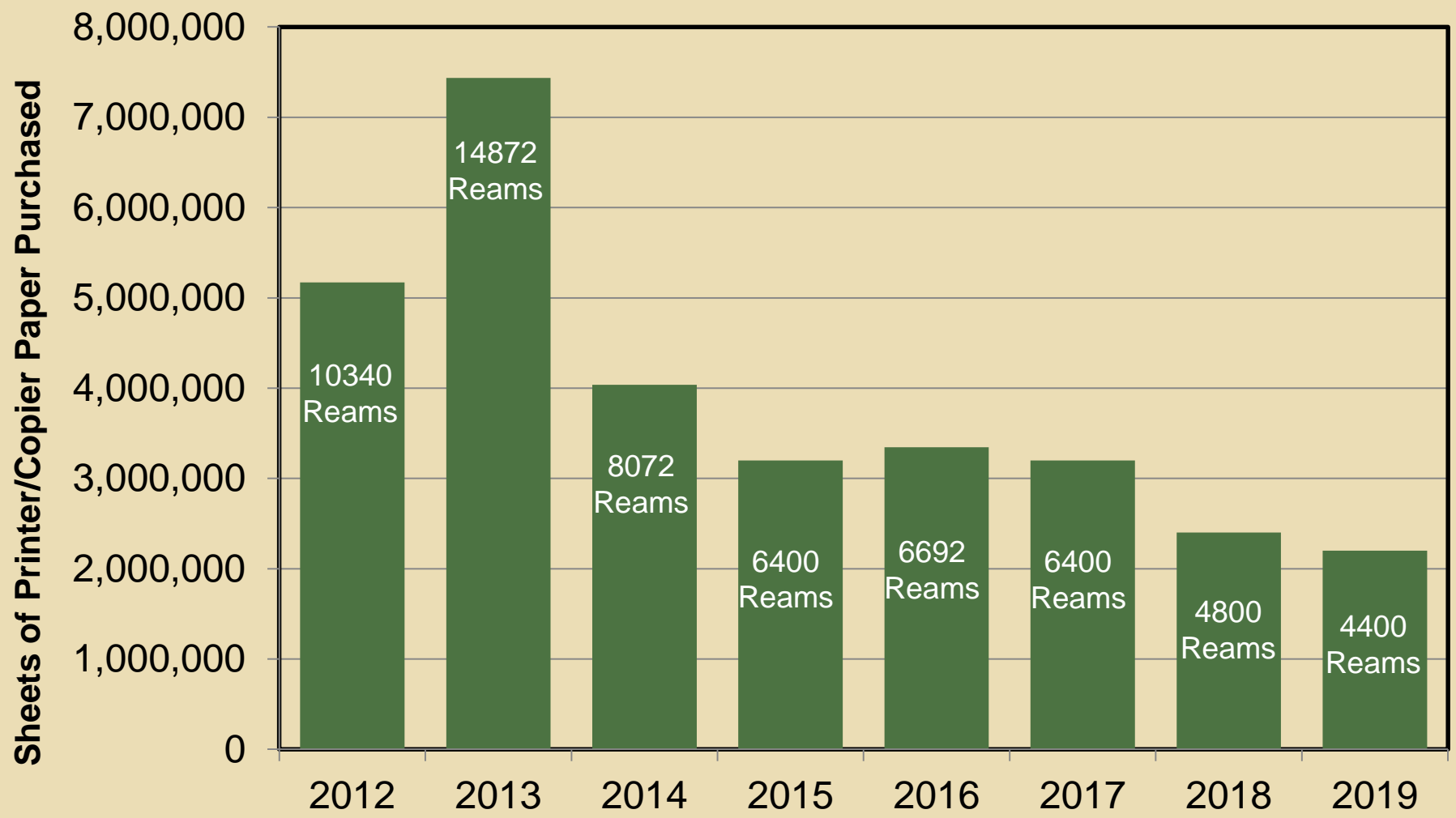
- Networked multifunction centralized printer/scanner/copiers so that users could scan documents and forward electronically instead of making hardcopies
- Provided training so personnel could learn how to use e-signatures on PDF documents and distribute via email
- Moved performance appraisals, travel 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



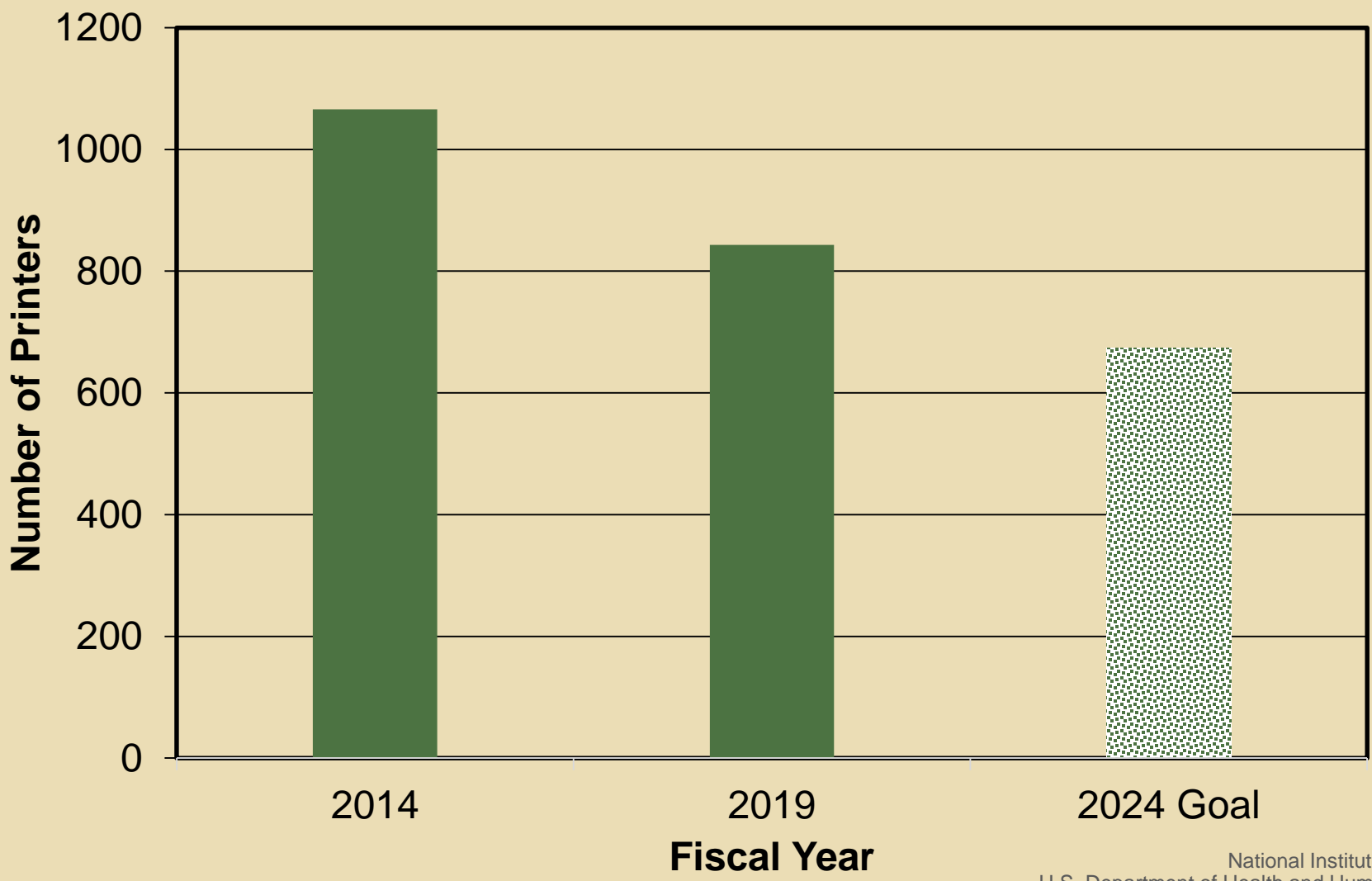
# NIEHS Paper Usage History



Fiscal Year

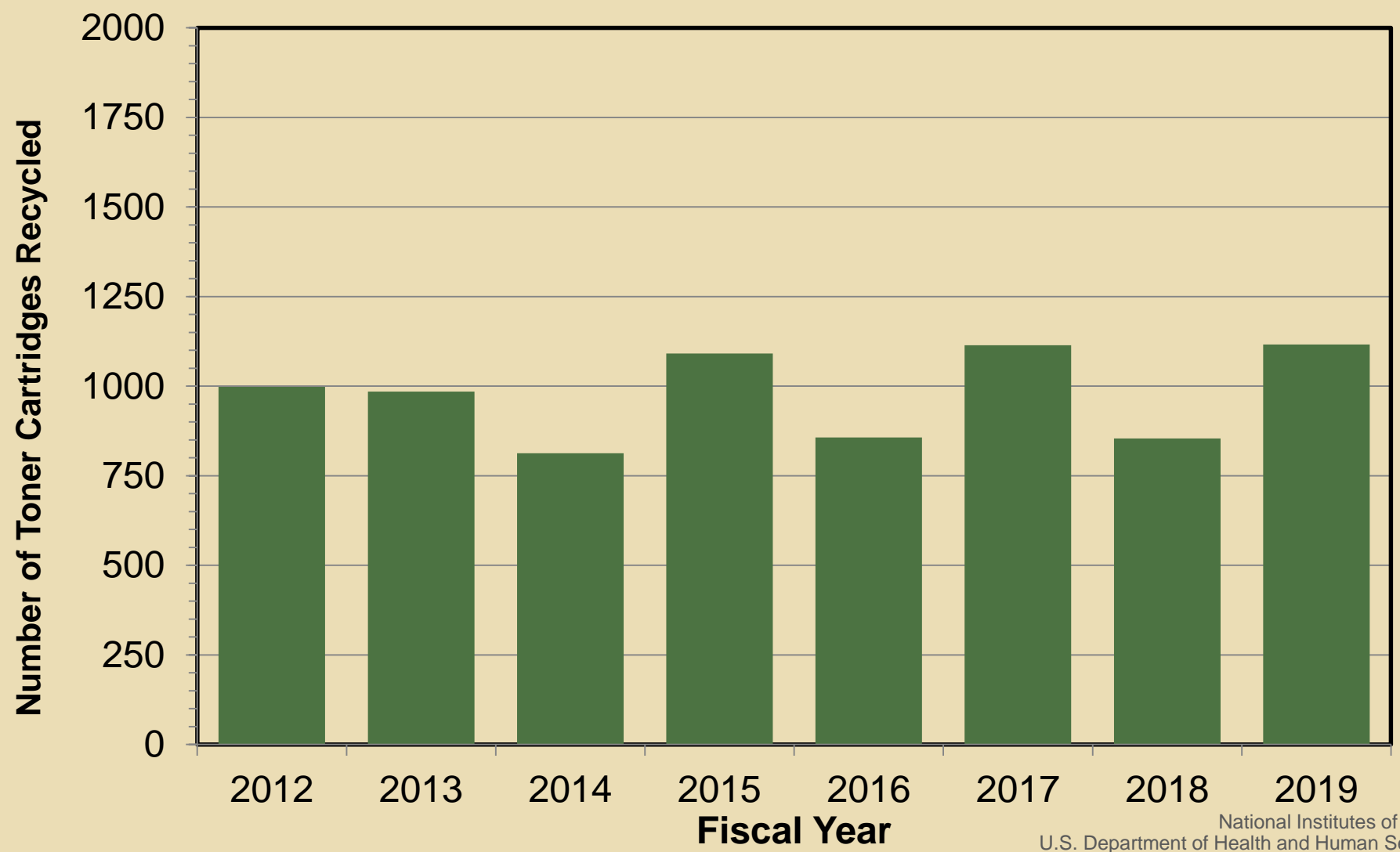


# NIEHS Printer Population Trend



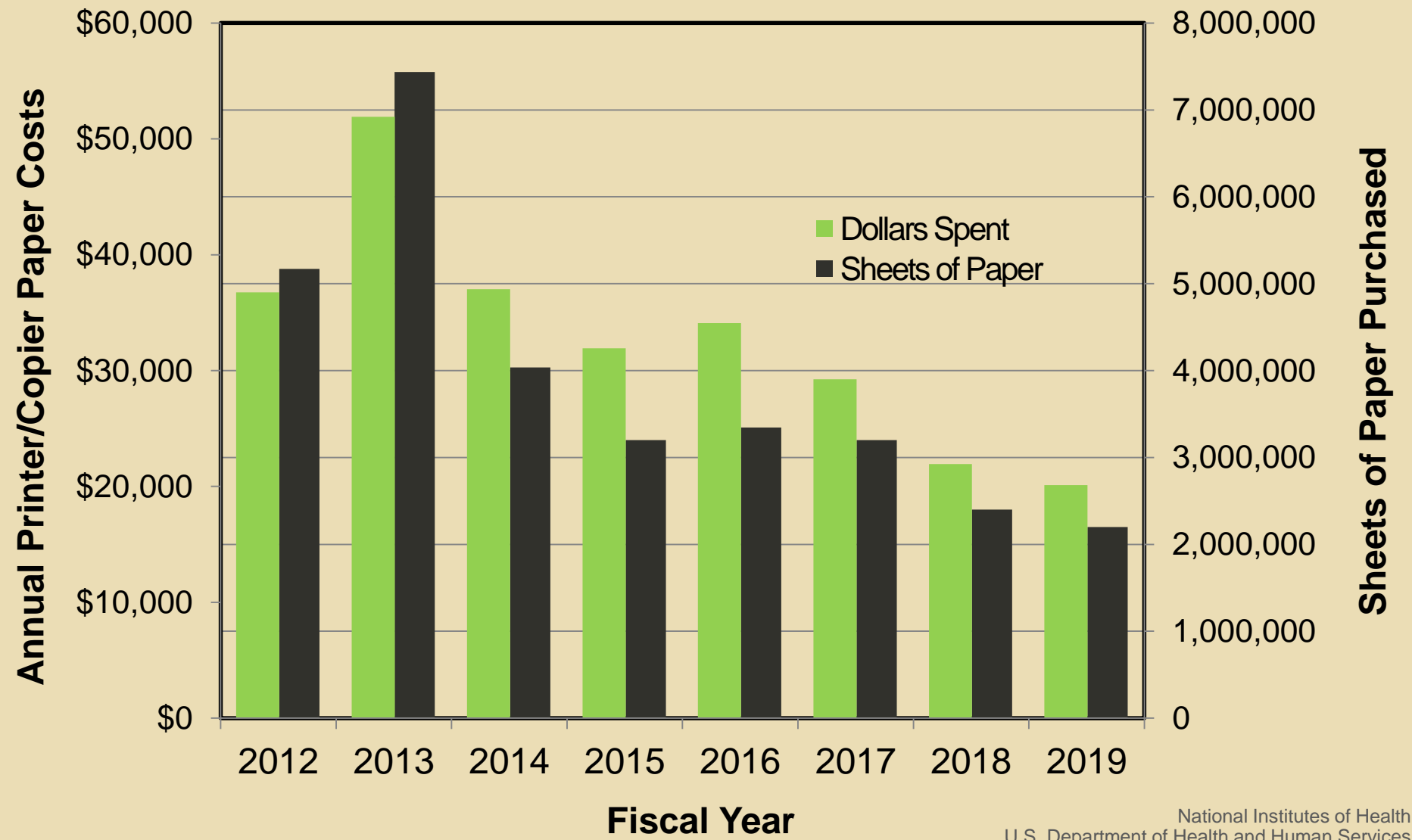


# Toner Cartridge Recycling History





# 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

