



**EESI**  
Environmental and  
Energy Study Institute

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# CONGRESSIONAL BRIEFING

## A New Spin on Conservation Corps

***Briefing Series: Workforce Wednesdays***

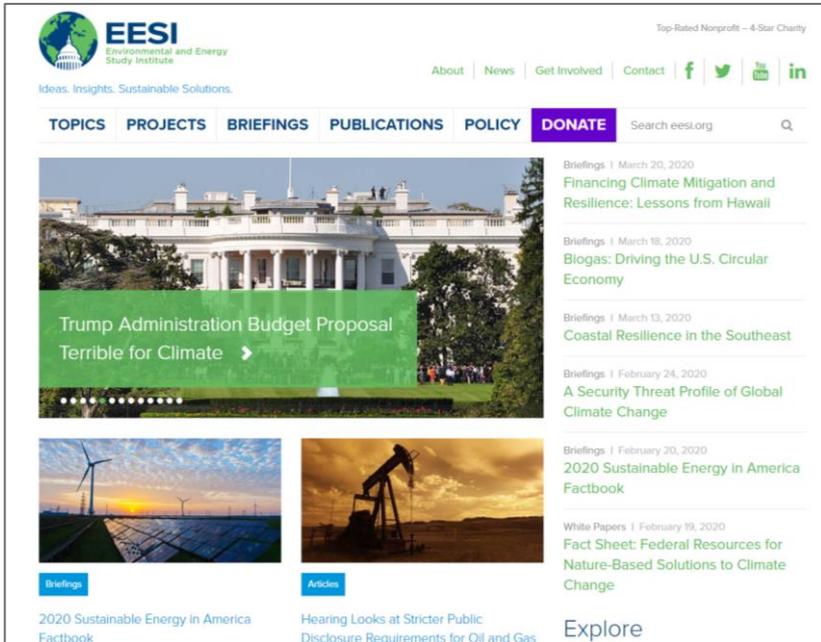
Wednesday, September 9, 2020

# About EESI...



- 
-  **NON-PROFIT**  
Founded in 1984 by a bipartisan Congressional caucus as an independent (i.e., not federally-funded) non-profit organization
  -  **NON-PARTISAN**  
Source of non-partisan information on environmental, energy, and climate policies
  -  **DIRECT ASSISTANCE**  
In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs
  -  **SUSTAINABLE SOCIETIES**  
Focused on win-win solutions to make our energy, buildings, and transportation sectors sustainable, resilient, and more equitable

# ...About EESI



## HILL BRIEFINGS

Video recordings and written summaries of Congressional briefings



## CLIMATE CHANGE SOLUTIONS

Bi-weekly newsletter with all you need to know including a legislation tracker



## SOCIAL MEDIA (@EESIONLINE)

Follow us on Twitter, Facebook, LinkedIn, Instagram, and YouTube



## FACT SHEETS

Timely, science-based coverage of climate and clean energy topics

# Green Forests Work

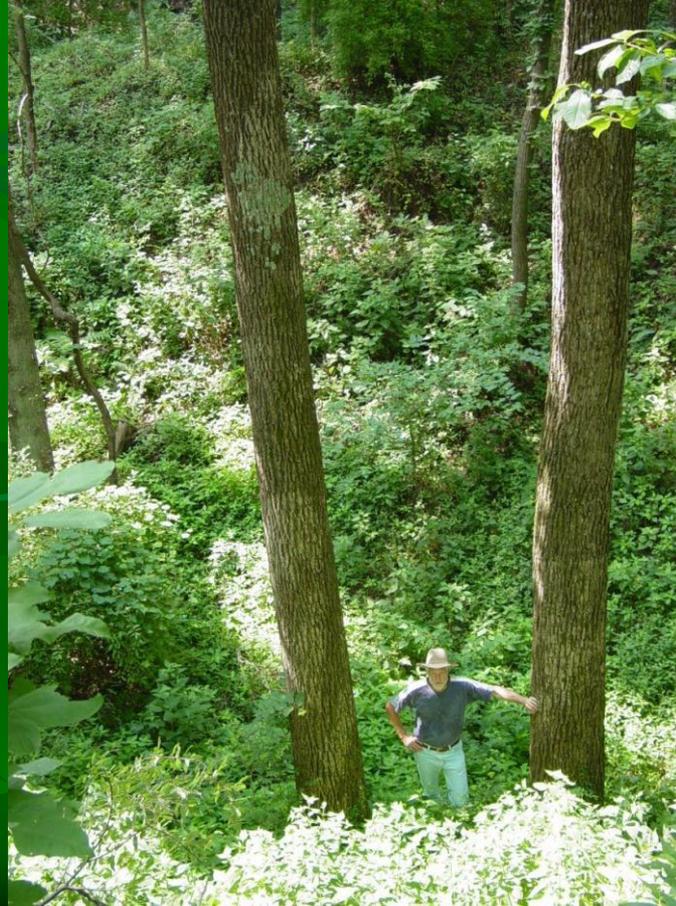
## Restoring Ecosystem Services and Creating Economic Opportunities on Surface Mines across Appalachia

Michael French – Director of Operations

Environmental and Energy Study Institute Webinar  
September 9, 2020



# Pre-SMCRA Black Walnut, Southern Indiana



# Pre-SMCRA

## White Oak, Southern Illinois



# Pre-SMCRA Loblolly Pine, Western Kentucky



**Reforestation was commonplace but...**



**so were human safety and environmental  
issues...**

## **Water quality problems**



## **Hazardous landforms**



# Toxic or acid-producing material on the surface



# Surface Mining Control and Reclamation Act of 1977 (SMCRA – Public Law 95-87)

- Standardized reclamation practices
- Provided oversight to state agencies
  - Focused on slope stability, eliminating landslides, and reducing sediment runoff
  - Approximate Original Contour (AOC)
  - Post-mining land use (PMLU)
  - Required that mining companies put up a monetary bond before mining commenced

# Pre-SMCRA Meets Post-SMCRA



# Post-SMCRA Reforestation

## What Happened?

- **In an effort to achieve landform stability and prevent landslides, spoils were repeatedly graded which created a highly compacted surface.**
- **Compacted spoils inhibit root penetration, gas exchange and water infiltration which results in high seedling mortality, increased runoff and poor water quality.**
- **Thick covers of aggressive grasses and legumes also competed with trees for nutrients, water, and sunlight.**
- **This led to a widespread failure of tree planting projects and disincentives for reforestation. Mining firms became very skilled at creating grasslands: efficient, cheap, successful in achieving bond release.**







**Tree planting failures became commonplace**

7 year-old red oak



**Where once were forests...**



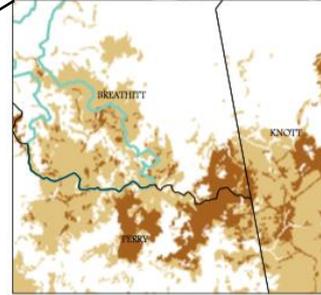
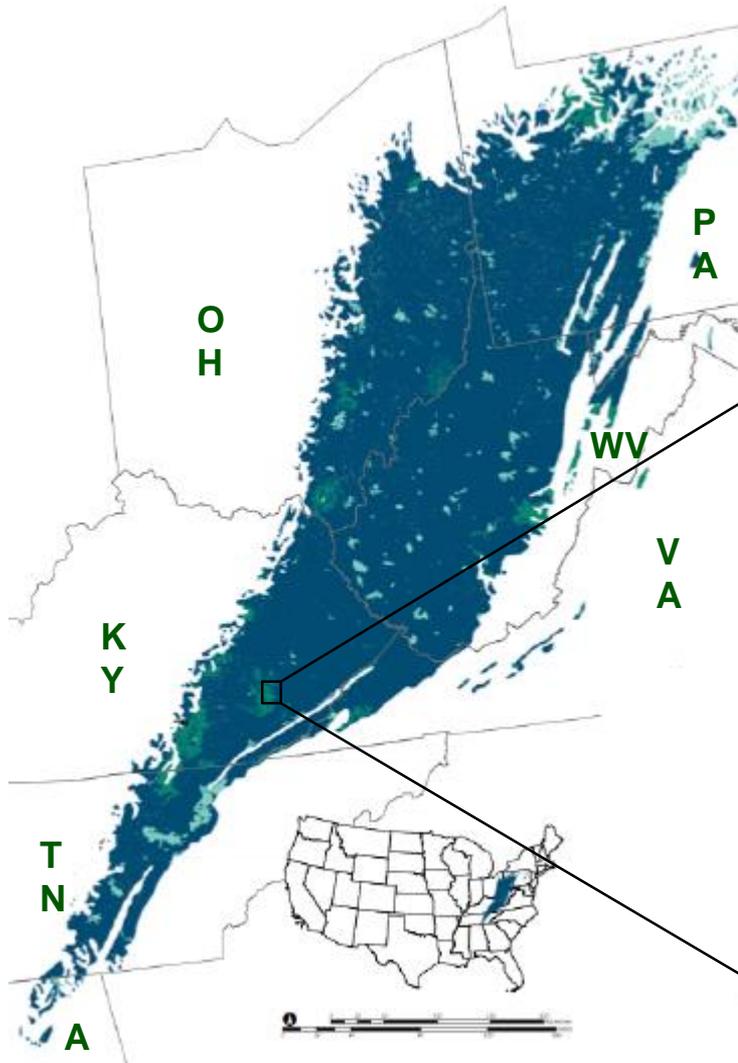
**Hay/Pastureland PMLU became widespread**

## **Where once were forests...**

**750,000 - 1,000,000 acres  
across Appalachia were converted  
from forest to other land uses**

# Land-Use Change

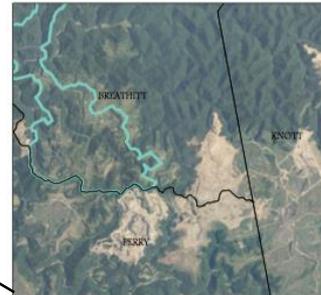
- **1,700,000 acres bond released**
- **700,000 acres currently permitted**



2006 National Land Cover Data



2006 Farm Service Agency - National Agricultural Imagery Program



2010 Farm Service Agency - National Agricultural Imagery Program



2008 Farm Service Agency - National Agricultural Imagery Program





**These unmanaged grasslands often become colonized by invasive, exotic species**

# The Appalachian Regional Reforestation Initiative



- ARRI's goals:
  - Plant more high value native hardwoods
  - Increase seedling survival and growth rates
  - Expedite the establishment of forest habitat and speed up natural succession
- Created by OSMRE, ARRI works with the active mining industry, state regulatory agencies, academics, citizen's groups, et al.

# The Forestry Reclamation Approach (FRA)

- Leave 4 feet of the best available growth medium on the surface
- Avoid compaction
- Lightly seed tree-compatible groundcovers
- Plant a variety of trees
  - Early successional trees
  - High-value hardwoods
- Use proper tree planting techniques

# 17 year-old FRA Planting - KY



# 2007 FRA Planting - WV



7 year-old oak and poplar on an FRA site



**Guy Cove site 2009 - before planting**



**Guy Cove site in 2017**



**Guy Cove site in 2019**

# What can be done about this?



**750,000 – 1,000,000 acres in need of restoration**

# Green Forests Work



- 501(c)(3) offshoot of ARRI
- Mission: To re-establish healthy and productive forests on formerly mined lands across Appalachia
- Implements a “Modified” Forestry Reclamation Approach on Legacy mines
- Legacy mines – post-SMCRA, reclaimed to land uses other than forest

# Green Forests Work



- Started as a petition to WH to stimulate the economy in Appalachia by creating jobs
- Continued anyway with no funding
- Appalachian Regional Commission
- 501(c)(3) est. in 2013
- Relies on grants, donations, and partnerships to implement projects on public and private lands

# Modified FRA

- Control unwanted vegetation
  - Mechanical
  - Chemical
- Mitigate compacted ground
- Plant a variety of trees
- Use proper tree planting techniques



# Unwanted vegetation - Mechanical control





**Mitigate Compaction:  
Ripping a compacted site**

# Plant a variety of trees



# Green Forests Work

- Focused on improving two aspects of Appalachia
  - “Environmental Infrastructure”
    - Restoring ecosystem processes and services that native forests provide
  - Creating Employment and Economic Opportunities
    - Immediate creation of local jobs
    - Future opportunities by restoring a forest-based economy



# Green Forests Work

- Restoration of Ecosystem Services

- Forest habitat restoration

- Terrestrial, avian, and aquatic benefits
    - Pollinator benefits

- Improved hydrology and water quality

- Ripping increases infiltration, reducing runoff and buffering watersheds from storm events
    - Tree cover increases ET, reducing loading

- Improved air quality

- Increased particulate interception
    - Climate change mitigation through C-sequestration

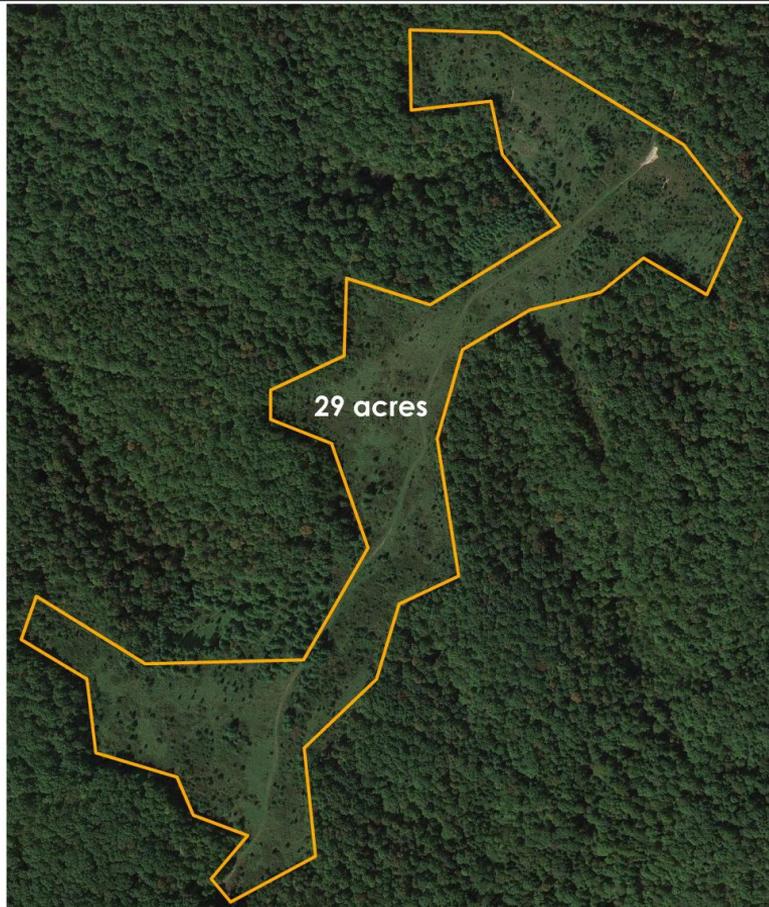


# Reducing Forest Fragmentation



-  Project Site
-  DBNF Boundary
-  Reforestation Area Boundary

Imagery Source: Google Earth 10/9/2013



Map Created by  
Kylie Schmidt  
5/2/2016



# Improving Hydrology



# Improving Hydrology



# Habitat Creation



# Pollinator Benefits



# GFW-ARRI Projects 2009-2020

- 390 projects/events
- 10 States
- >17,000 volunteers
- 100s of partners
- 4,985 acres reforested
- 3,139,647 trees planted



# Green Forests Work

- Job creation for seed collectors, equipment operators, nursery workers, tree planters, et al.
- Secondary industries (hospitality, retail, transportation, service)
- Future economic opportunities
  - Forest management
  - Timber production
  - Non-timber forest products
  - Eco-asset credits (carbon, N & P, et al.)
  - Tourism and recreation



# Green Forests Work



**Seed collectors and  
tree nursery workers**

# Green Forests Work



Equipment operators



# Green Forests Work



**Professional tree planters**

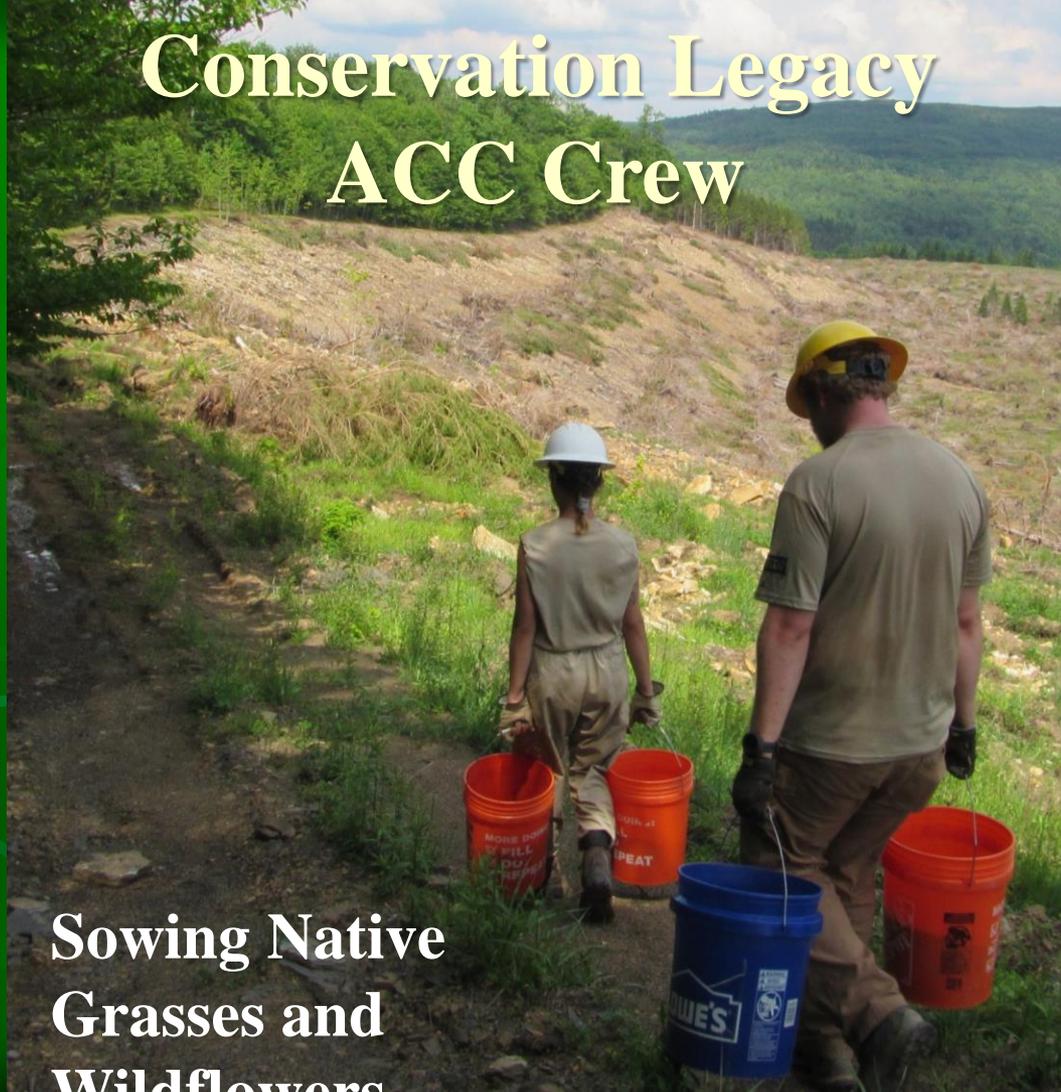
# Conservation Legacy ACC Crew



Planting Wetlands

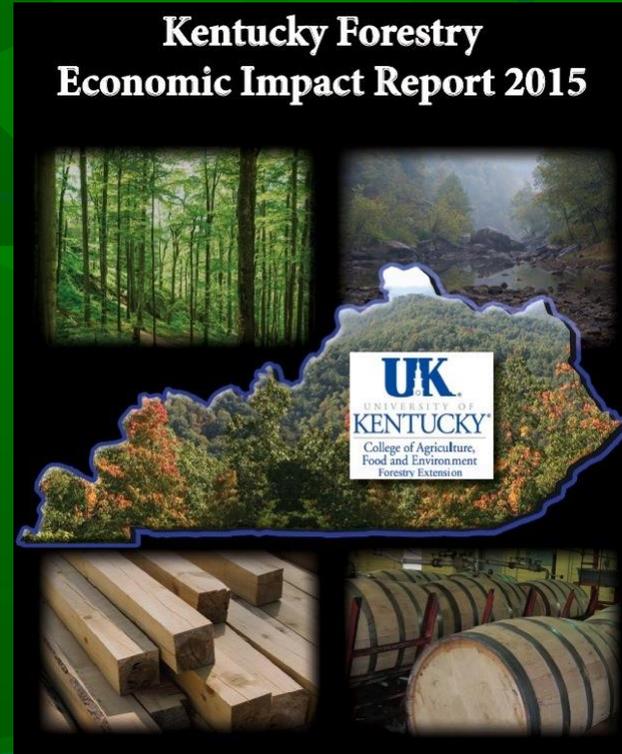
# Conservation Legacy ACC Crew

Sowing Native  
Grasses and  
Wildflowers

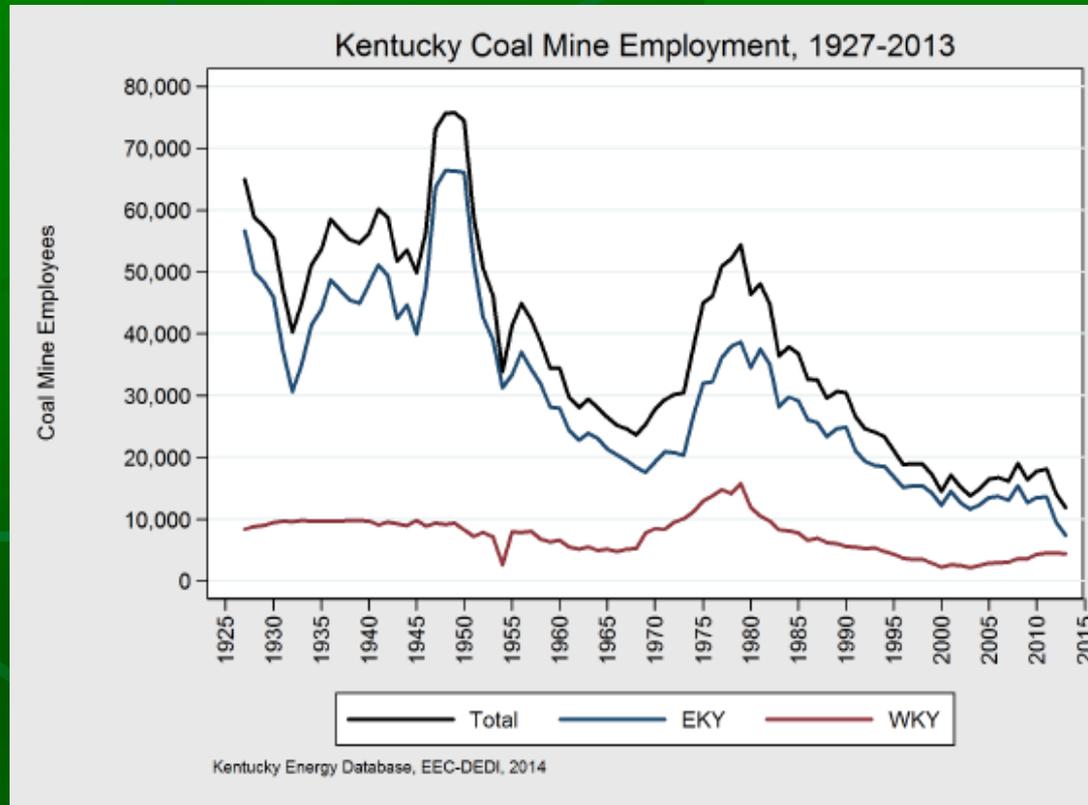


# Why Forests?

- \$9.1 billion in direct economic contribution.
- 28,408 jobs in the forest industry and an estimated 57,750 jobs overall.
- EKY – opportunities for 14,000 additional jobs with \$2.4 billion value added.
- *Regenerative economy!*



# Coal Mine Employment - KY

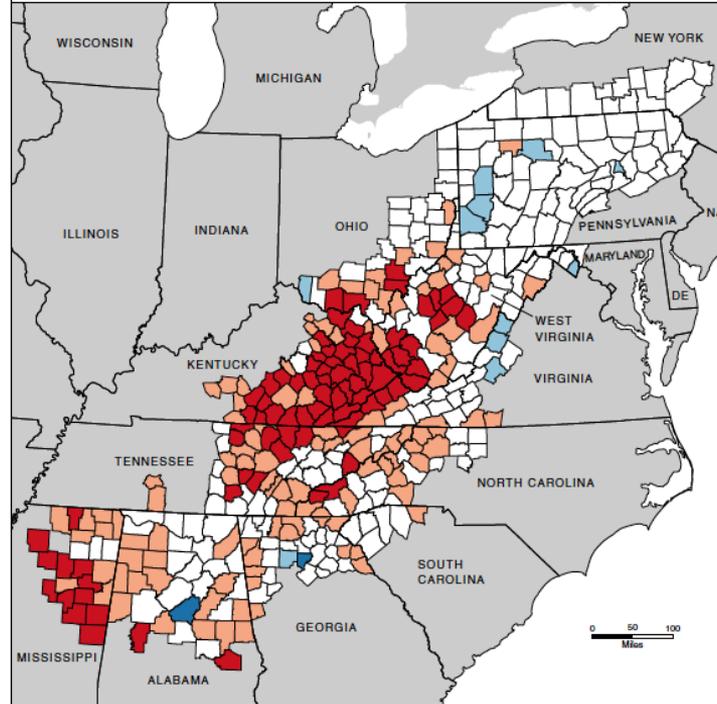


< 4,000 - The estimated number of coal jobs in Kentucky as of April 2017. It is the lowest number since 1898.

# Why Now?

## County Economic Status in Appalachia, Fiscal Year 2018

(Effective October 1, 2017 through September 30, 2018)



The Appalachian Regional Commission uses an index-based county economic classification system to identify and monitor the economic status of Appalachian counties. See the reverse side for a description of each economic level.

### County Economic Levels

- Distressed (84)
- At-Risk (115)
- Transitional (208)
- Competitive (11)
- Attainment (2)



Map Created: August 2017

Data Sources:

Employment data: U.S. Bureau of Labor Statistics, LAUS, 2013-2015

Income data: U.S. Bureau of Economic Analysis, REIS, 2015

Poverty data: U.S. Census Bureau, American Community Survey, 2011-2015

**“... the act of planting a tree reconnects the human spirit to the beauty and importance of the natural world – the basis for all life on Earth”.**

***2004 Nobel Peace Prize Laureate Wangari Maathai***





# EESI Congressional Briefing: Conservation Corps

[greencityforce.org](http://greencityforce.org) @greencityforce

# WE ARE A MOVEMENT WE ARE THE FORCE.



Cohort 17 in Service Boot  
Camp at Howard Houses

**GREEN  
CITY  
FORCE**

**TRAINING LEADERS TO POWER THE  
GREEN ECONOMY, THROUGH SERVICE.**

[greencityforce.org](http://greencityforce.org) @greencityforce

## OUR VISION

# One day we will live in green cities where everyone can thrive.

**We are working toward a “green city” rooted in social, economic and environmental justice.** We view young adults from frontline communities as the essential force for driving the emergence of sustainable and resilient cities—by transforming their own lives, leading community transition, and promoting the values of a new, regenerative and inclusive economy.

**We envision young people building the green cities we want to see through engagement in service years that also lead them on a path to satisfying and rewarding careers.** We view service, purposefully designed, as a systemic solution to create a just, collaborative and connected society. Our ambition: that service to help build green and equitable cities becomes an avenue to opportunity for a generation of young residents of public and low-income housing.

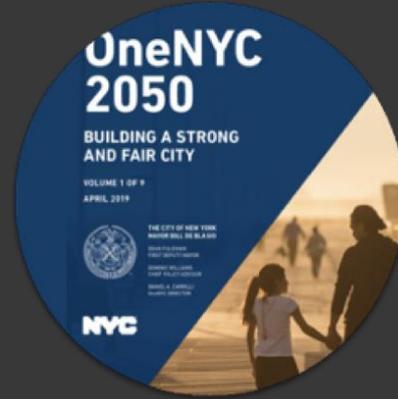
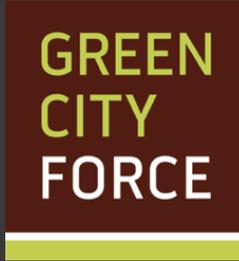
# **We train young leaders to power a green and inclusive economy, through service.**

**Our model corps in New York City enlists and trains young people from low income housing communities for a new and more equitable economy.** We equip them with the tools to change the trajectory of their lives and access good jobs. Corps Members develop a passion for sustainability and service through driving large-scale environmental and health initiatives in public housing and other frontline communities.

**We design service as a path to greater well being and means to enlist young people to become contributors and leaders in the movement to build a greener, fairer and more just world.** Graduates go on to jobs or college, directly or through alumni initiatives that build towards sectoral jobs and apprenticeships, via social enterprise contracts or advanced training developed with employers. Our network of alumni, partners and supporters constitutes a growing ecosystem anchored in our corps.



HOWELL STREET - MANAGEMENT OFFICE



## YOUTH

### UNEMPLOYMENT

**72% of NYCHA young adults are unemployed**, lacking access to stable career pathways. Without successful work experience before 26, the odds of economic independence plummet.

## CLIMATE ACTION

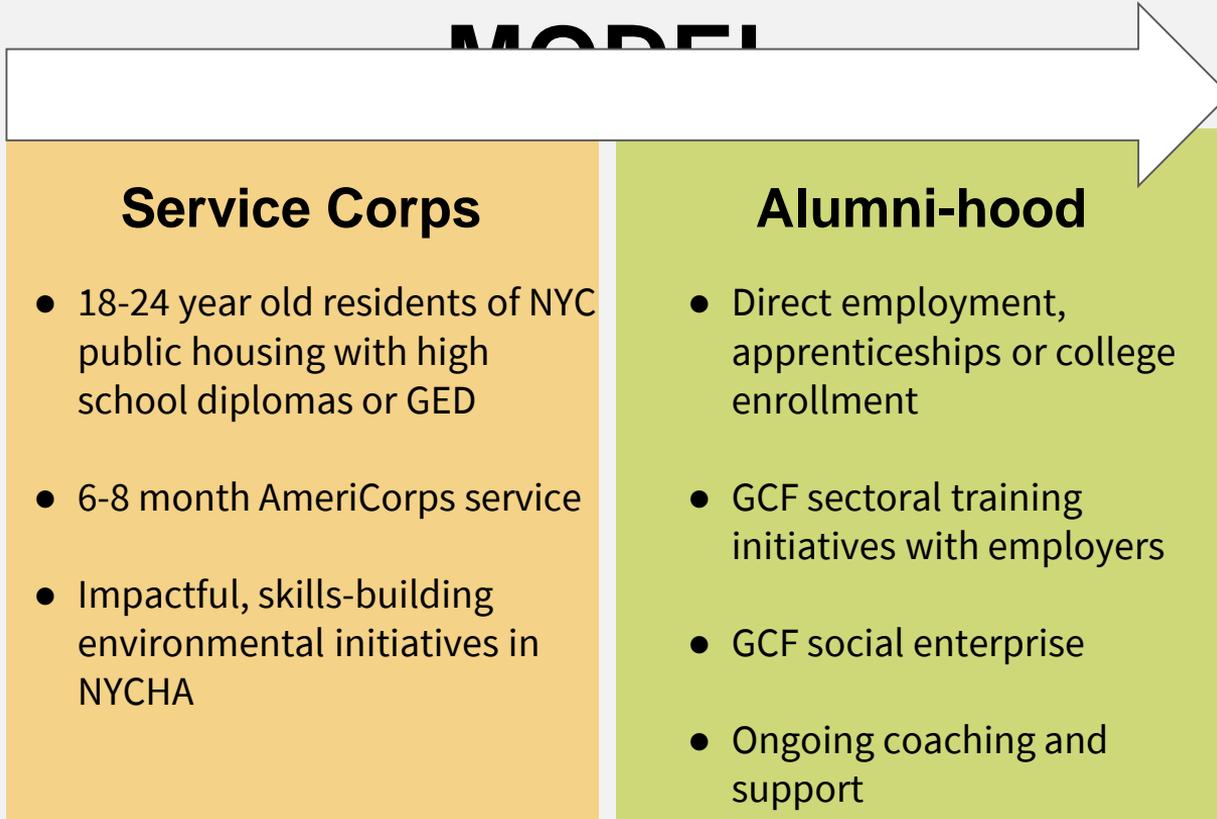
### GOALS

**\$750M+ in annual energy waste and unnecessary pollution** is caused by outdated infrastructure and poor usage habits, according to NYC's sustainability policy goals.



# GREEN CITY FORCE PROGRAM

## MODEL



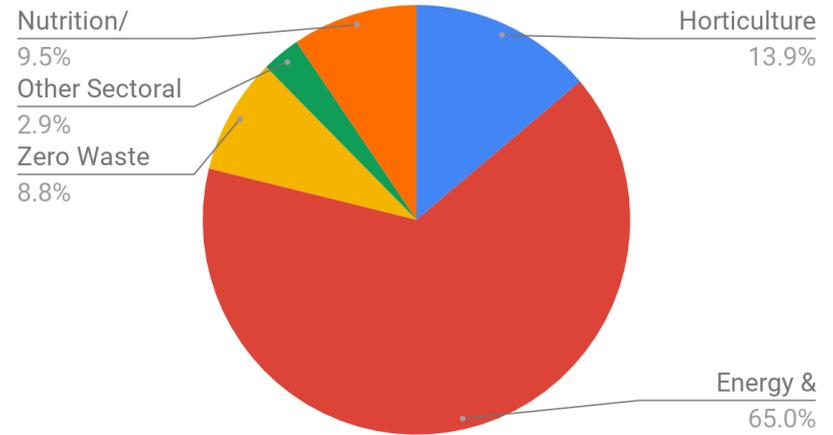
# FOCUS ON GREEN ECONOMY

## SECTORAL PLACEMENT

Green City Force targets service learning experiences, technical training and employer partnerships linked to specific jobs that encompass:

- energy efficiency, utilities, renewables and behind the meter technology;
- construction, operations, maintenance and management of buildings;
- waste management including recycling and composting;
- green infrastructure;
- maintenance and management of green spaces;
- horticulture and food production;
- community health and sustainability education outreach

Initial Placement by Sub-Sector



# PROVEN APPROACH



**GRADUATION RATE**

**500+**

**GRADUATES**

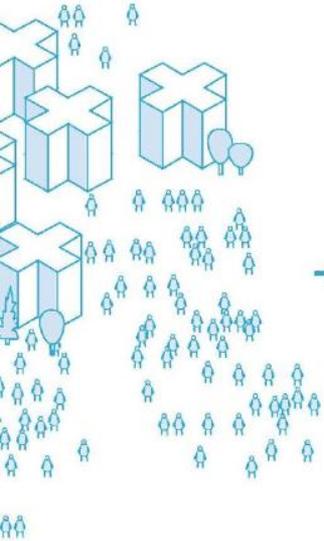


**JOB PLACEMENT  
AT 6 MONTHS**

In 10 years, GCF has demonstrated young adults in NYCHA are ready to serve, can create large-scale environmental impact, build interest and skills for in-demand jobs and become standouts in the green economy.

# GCF CORPS MEMBER JOURNEY

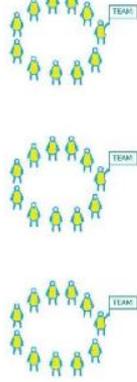
Public Housing in NYC:  
a city within the city



Residents 18-24 are unemployed at higher rates than their peers outside of NYCHA.

GCF connects the dots between young talent and climate change, health and equality imperatives and opportunity in emerging fields.

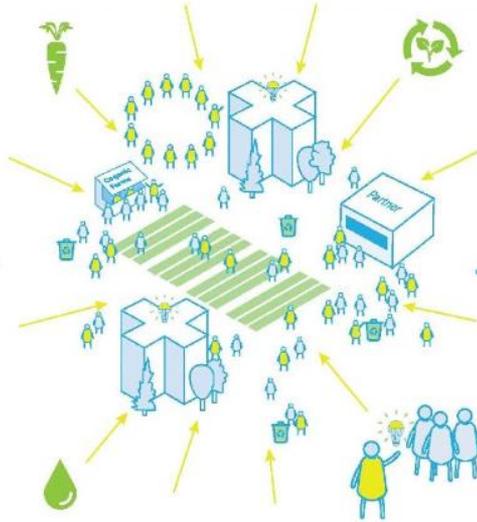
## RECRUITMENT & ORIENTATION



Build the force for green service, one cohort at a time.

## SERVICE & TRAINING

Greening NYCHA communities through visible, measurable, impactful, and skill-building paid service initiatives.



GCF's Corps drives large-scale environmental initiatives in NYCHA to transform land, buildings & practices, engaging thousands of residents.



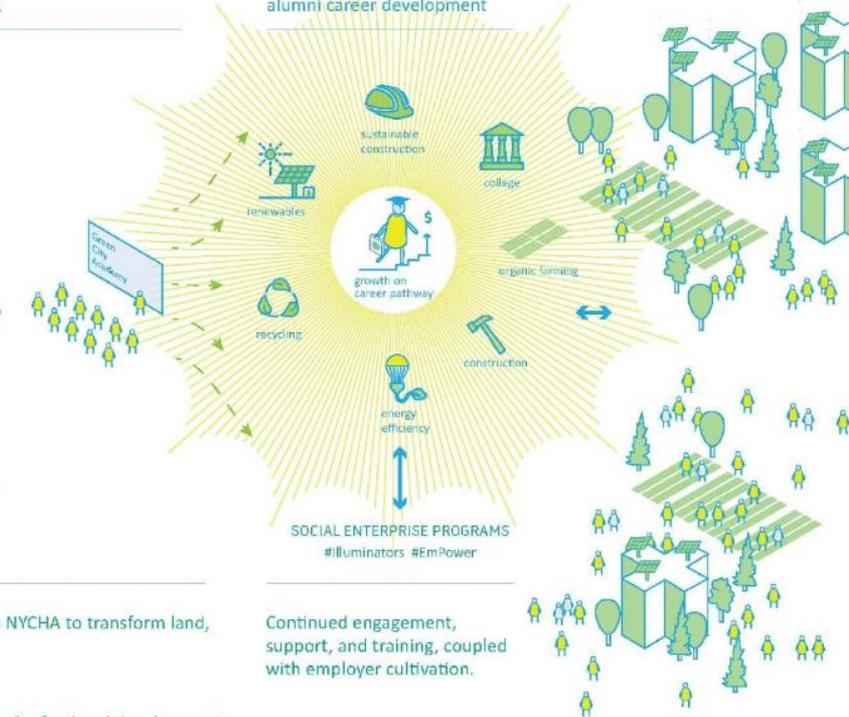
Members earn stipends and an education award at graduation. GCF provides MetroCard, certifications & support services.



Professional development, hard + power skills, eco literacy, community building.

## ALUMNIHOOD

life-long commitment to alumni career development



Continued engagement, support, and training, coupled with employer cultivation.

Alumni power green and equitable cities



# GCF SERVICE CORPS

Flagship Service Initiatives



**Farms at NYCHA**



**Love Where You Live**

# MULTI-FACETED IMPACT

(Selected outputs since 2013)



40,000



**NYCHA Residents**

Reached with  
conservation education  
and materials



13,568

**Light Bulbs**

Swapped for  
efficient  
lighting



8,013

**Pounds**

Of recyclable  
material  
collected

# Farms at NYCHA: increasing resident consumption of fruits and vegetables, and resident savings

**94,306 lbs**  
 (3 year outcomes, 2019 CUNY report\*)

**\$350,000**  
 +

of produce distributed with a retail value of approximately \$202,257\*



In estimated value of ecosystem services with 19,517 lbs. of compostables collected



**14,143 visits**

To weekly farm stands



**2,490 students**

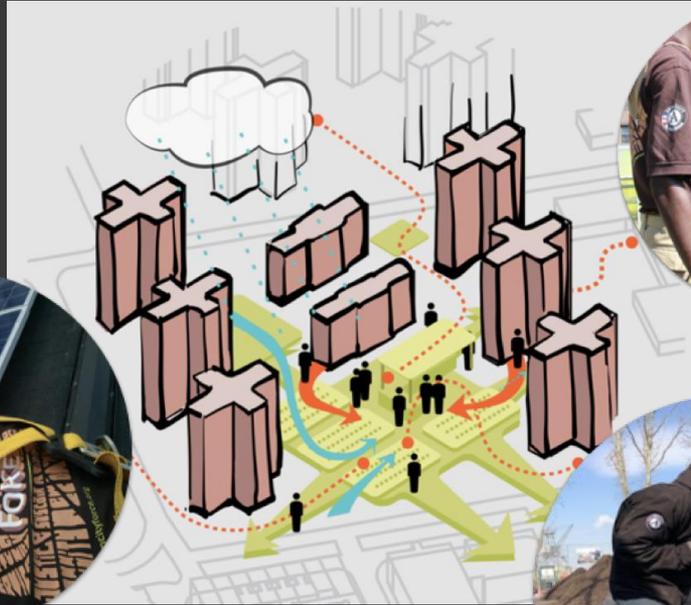
Educated in farm based learning



\*Source: Farms at NYCHA Evaluation 2016- 2019, Dr. Nevin CUNY Urban Food P

# ECOHUBS SERVING MULTIFACETED PRIORITIES

Eco Hubs powered by Green City Force build towards closed-loop systems in NYCHA developments and platform for young residents in service and training to respond to local and City priorities



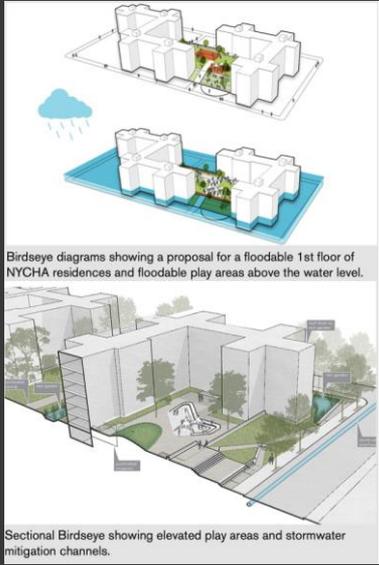
Impact areas include waste, water conservation, energy education, land improvement, resident engagement and outreach and innovation.



GCF's corps serves as design and implementation partner to residents, City agencies and NYCHA.

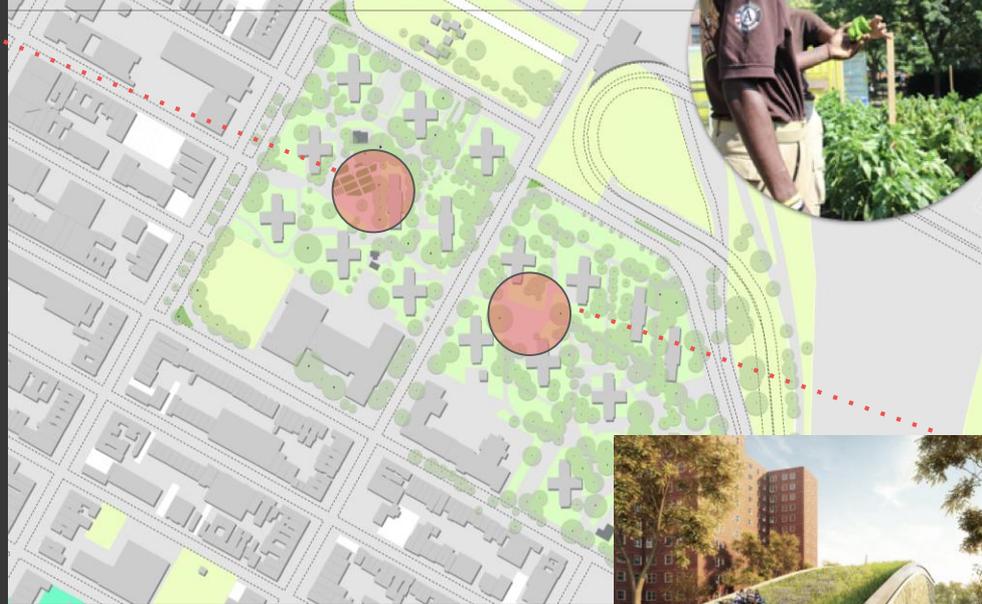
# 5 EXISTING FARMS AT NYCHA

## AS ECO HUBS



Each of the 5 existing Farms at NYCHA will be outfitted with physical features for zero waste, energy generation, water catchment.

Wagner Houses Farm [Existing Site]



In addition to organic food production, they will function as outdoor classrooms for resident participatory planning and engagement around behavior change towards composting, recycling, reuse, refill, energy and water capture and conservation.



# GCF ALUMNI NETWORK

Continued career counseling, trainings, and leadership



Salonia Thompson, Cohort 13 Alum



Domingo Morales, Cohort 10 Alum

# GCF EMPLOYERS

A growing community



**Multiple Hires**



**Individual Placements**

# Alumni in Energy & Buildings

**This aspect of our sector includes careers related to:**

- energy efficiency, utilities, renewables and behind the meter technology
- construction, operations, maintenance, and management of buildings

**Examples of job titles include:**

- Direct Installer
- Site Superintendent
- Porter/Handyperson
- Green Building Superintendent



# 65%

Of GCF Graduates

# GCF SOCIAL ENTERPRISE

Employing GCF alumni



**Sectoral skill-building**



**Boosting NYC's efficiency**



# EARLTON MASSENBURG



## **Current Position:**

Apprentice at IBEW Local 3

## **Achievements at Green City Force:**

- Gained certification as a Green Building Professional (GPRO) from the U.S. Green Building Council.
- Obtained 10 & 30 hour Occupational Safety & Health (OSHA 10 & 30) certification
- Completed NYCHA Resident Training Academy

# NYSERDA's PRIORITY POPULATION LANGUAGE



***Conservation corps participants are prioritized as part of New York State's \$70 million investment in clean energy workforce funding through NYSERDA.***

“Priority populations” include the following groups:

- 18- to 24-year-olds participating in work preparedness training programs, that include energy related technical training, such as BOCES, technical high schools, Conservation Corps, Youthbuild, AmeriCorps, etc.

# Alumni in

# Horticulture

This aspect of our sector includes careers related to:

- maintenance and management of green spaces
- horticulture

**Examples of job titles include:**

- Landscaping Crew Member
- Gardener



15.9

%  
Of GCE Graduates

# Alumni in Nutrition & Food

**This aspect of our sector includes careers related to:**

- food production
- food preparation
- nutrition advocacy

**Examples of job titles include:**

- Chef Instructor
- NextGen Farmer
- Farm Coordinator



**9.5%**  
Of GCF Graduates

# Alumni in

# Zero Waste

This aspect of our sector includes careers related to:

- waste management including recycling and composting

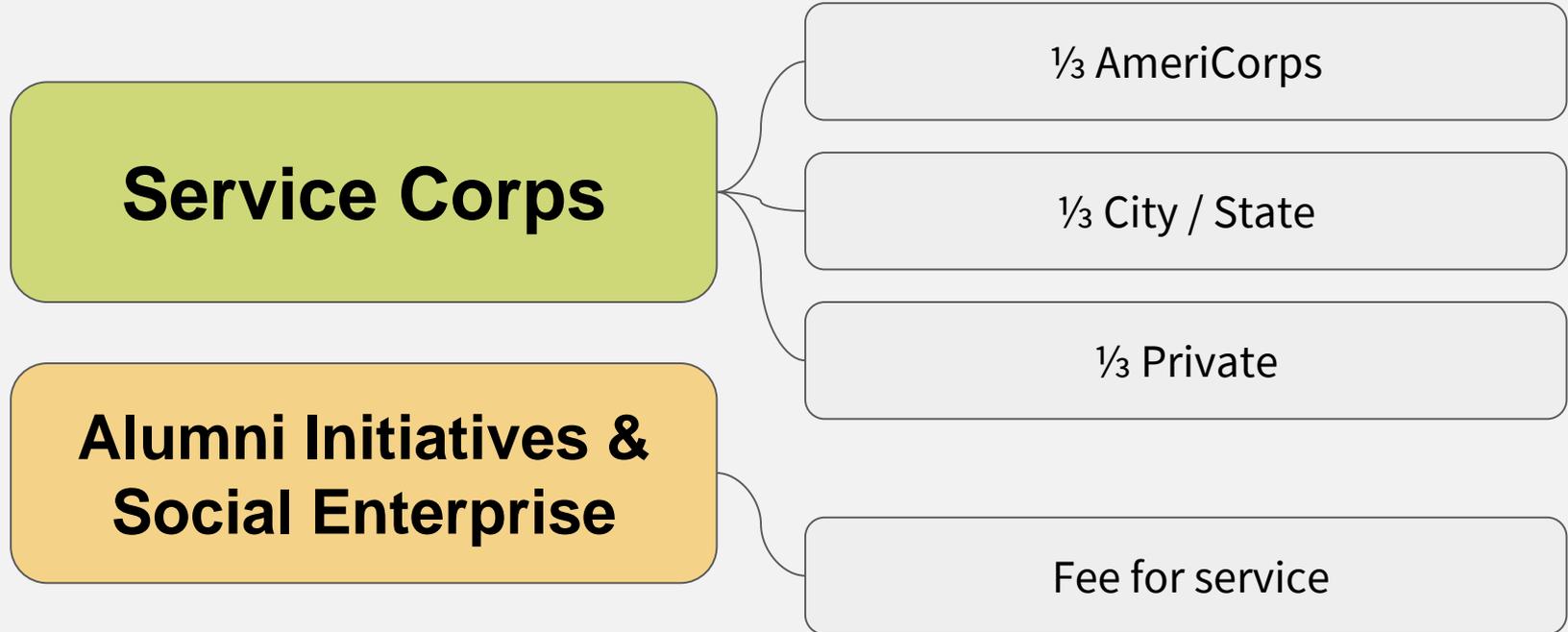
Examples of job titles include:

- Organics Recovery Manager
- Compost Coordinator



**8.8%**  
Of GCF Graduates

# FUNDING MODEL



# WORKSHOPS ENGINES FOR CLIMATE AND EQUITY IN CITIES AROUND THE COUNTRY



# Join us! To learn more: [GreenCityForce.org](https://www.greencityforce.org)



**GREEN  
CITY  
FORCE**

**Tonya Gayle**  
Chief Development Officer  
[tonya@greencityforce.org](mailto:tonya@greencityforce.org)

**Joshua Owens**  
Program Manager  
[greencityforce.org](https://www.greencityforce.org)  
[@greencityforce](https://twitter.com/greencityforce)



**EESI**  
Environmental and  
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