



2023 Climate Strategy Report

NC Department of Adult Correction

September 15, 2023

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Introduction

About the NC Department of Adult Correction

On January 1, 2023 the North Carolina Department of Adult Correction (NCDAC) separated from the North Carolina Department of Public Safety (NCDPS) to become a new department under the leadership of Secretary Todd Ishee.

The North Carolina Department of Adult Correction (NCDAC) has the responsibility for the rehabilitation, care, custody and supervision of more than 31,000 individuals in prison and more than 75,000 people on probation, post-release, or parole in our communities. NCDAC provides corrections supervision, justice reinvestment, reentry planning, crime prevention, and victim services and is the state's largest agency by number of employees with more than 19,000 full time positions. The department protects the public by collaboratively focusing on rehabilitation, protection, innovation, accountability, and professionalism.

Sustainability is very important to Secretary Ishee and he has authorized the formal creation of a Sustainability, Energy & Water Efficiency Section. Two parallel and complementary organizations are being created, one within Central Engineering and the other within Facilities Management. The organization in Central Engineering will establish standards of excellence and define goals and objectives. The organization in Facilities Management will provide feedback to the goals and standards, and ensure the appropriate goals are put into action. The Energy Manager position created under NCDPS in 2012, and the Energy and Sustainability Manager hired in 2020 by the Division of Prisons to address renewable energy and zero emission vehicles, were transferred to NCDAC along with two part time (11 months per year) employees. These positions will be folded into Central Engineering's Sustainability, Energy & Water Efficiency Center of Excellence.

NC Department of Adult Correction's Vulnerabilities to Climate Change

Climate stressors increase the vulnerability and risk for our correctional institutions and to the health and safety of our employees. Recent hurricanes have focused attention on the effects of riverine and overland flooding and storm surge, but wildfires, sea level rise, tidal flooding, extreme heat, and drought are also becoming major concerns. Neuse and Carteret Correctional Institutions are prone to flooding and related issues and each has faced an operational shut down within the past five years. Several institutions are also in a moderate flood risk hazard including Hyde Correctional Institute and Tyrrell Correctional Center. New Hanover has experienced flooding in the Admin/Programs and Pamlico Correctional Institute is also seen as a risk. This fiscal year the Safety, Occupational and Environmental Health Office and Emergency Preparedness will use tabletop discussions and Continuity of Operations Planning (COOP) efforts to minimize or mitigate flood and drought risks due to severe weather or storm surge including sewer and power challenges, placing greater emphasis on food availability to our offenders, and the potential for heat stroke among our employees and offender populations during severe heat events. Rising temperatures have resulted in funding of over \$30 million to install air

conditioning for Prisons facilities that are currently only served by heating systems. Finally, we will begin a resiliency awareness campaign throughout the organization.

NC Department of Adult Correction’s Approach to Fulfilling the Strategies in the Climate Risk Assessment and Resilience Plan

NCDAC is working this next fiscal year to identify areas of resiliency and risk related climate change. These actions include:

- Use our Facilities Condition Assessment Program to:
 - Identify correctional facilities and other critical operations most subject to flooding and hurricanes.
 - Identify and develop strategies for hardening our infrastructure and vertical construction in these vulnerable areas.
 - Assess facility viability and operations based on these challenges.
- Determine the potential impacts of severe drought or flooding to our farming operations and evaluate other food sourcing operations. Already, crop planting times and placements are varied to minimize the impacts of floods and drought conditions.
- Efforts to minimize or mitigate severe weather impacts, flooding, and droughts through our Safety Program via Tabletop discussions and our Continuation of Operations Plan (COOP)
- Develop strategies to recognize and mitigate the potential increased hazard of heat stroke in both our staff and offender populations.
- Develop a Resiliency Awareness Campaign for the agency to remind ourselves of these challenges and minimize or mitigate their impacts.

Reducing Energy Use

Incremental gains towards a 40% reduction in energy and water intensity were occurring while NCDAC was part of DPS, measured in usage per gross square foot (GSF). See **Table 1** below.

Table 1: Change In Energy and Water Intensities

FY	Division	Energy Intensity (%)	Water Intensity (%)
21-22	NCDPS inclusive (includes NCDAC)	-29	-24
21-22	NCDAC	-11	-7
22-23	NCDAC	-22	-13

A noticeable increase in intensity has occurred since this split for the following reasons:

- Our reduction in intensity was boosted in 2012 when DPS divisions were combined with NCDAC because of the additional GSF added by DPS. Removing these sites will now have the opposite effect.
- In addition, air conditioning needed to address other resiliency challenges will be added at ~30% of our correctional beds. This will dramatically increase our electrical intensity from now through 2026.
- Correctional facilities added since FY 2002-2003 are fully air conditioned. That had a negative impact on overall energy intensity.
- Several solutions are recommended:
 - Consider a baseline specifically for facilities built after 2002-2003.
 - Create an artificial baseline all other facilities built before 2002-2003 that were never air conditioned. This should be based on the Commercial Business Energy Consumption Survey (CBECS) average for similar facilities built at those times.

These challenges have only spurred us to be more aggressive in our attempt to reduce energy and water usage. The Sustainability, Energy & Water Management team is growing for this reason and our increased focus on sustainability with a goal to further reduce our energy & water demands as well as more sustainably manage our lands.

Our cumulative savings to date are:

Avoided Costs	\$2,079,000
Energy Usage Reduction	79,900 MMBTUs
CO2 Emission Reductions	16,493,000 lbs

We have now purchased over 93% (compared to 85% last year) and installed nearly 73% (60% last year) of all the exterior LED lighting fixtures needed for our facilities. We estimate our current interior lighting LED retrofit completion at around 61%. We anticipate fulfilling our “LED in ’23” campaign for both interior and exterior LED lighting by the end of FY 23-24 if full funding is provided¹.

Funding for projects has come primarily from Opting-Out of the energy efficiency tariff for our large electrical accounts. Additionally, NCDAC re-allocated \$1.7 million in energy and water/sewer savings over the past year towards more energy conservation measures throughout the Department. The reallocation was necessary because cabinet agencies do not have a bill similar to HB 1292 which allows constituent institutions of the University of North Carolina to return 60% of their energy avoided costs

¹ There are two exceptions: The lighting at the Thousand-Cell facilities is being retrofit as part of a larger performance contract. The overall construction period will be two years, but we anticipate the completion of the lighting portion by December 2024. In addition, we are developing another performance contract for Central Prison and are avoiding LED installations at this facility in order to include them in the contract. Our goal is to issue an RFP for Central Prison by January 2024.

back into additional energy/water efficiency projects. In total, ~\$7.9M in additional funding was provided in FY 22-23 for sustainability, energy and water efficiency efforts including:

- \$5.3M for Water management systems
- \$73K for stationary chargers
- \$1.7M for solar charging stations
- \$327K for exterior lighting
- \$318k for Building Management Systems
- \$185k for green (all electric) lawn care equipment including zero turning radius mowers and utility vehicles.
- \$46k for test equipment (air leak detection, combustion analysis, and water leak detection)

Finally, a house bill similar to HB1292 is being proposed this year. HB 1292 allows universities to carry over their utility savings and use these for further energy efficiency efforts. Also, the utility budget is not reduced based on these savings. SB 492 (2023) just passed allows NCDAC to do likewise. This additional funding will be allocated to our efforts.

As demonstrated above, NCDAC continues to aggressively pursue funding and projects—including performance contracting and grants—to attain our targeted reduction in energy/water intensity by 2025 as identified in Section 1.0.

Addressing Environmental Injustices and Inequities

As requested by Executive Order 246, NCDAC has named its environmental justice lead, Justin Duncan, Director of Partnership, Engagement, and Inclusion. NCDAC has since begun new initiatives to address environmental injustices inherent in its mission and observed throughout the state. In addition to representation and participation on the Office of the Governor’s Environmental Justice working group, NCDAC has worked proactively with NCDNCR Natural Heritage Program. The intent of this partnerships is to evaluate NCDAC property and move forward with land dedications where applicable.

Public Participation Plan

This section is not applicable to our department.

1.0. Reduce greenhouse gas emissions

1.1 Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels

<p>1.1.1 <i>LED in '23!</i> Campaign: Completely retrofit all NCDAC facilities with LED lighting by FY 23-24</p>	<p>Underway</p>
<p>Expected Completion Date: FY 23-24</p> <p>Program Successes:</p> <ul style="list-style-type: none"> • Adult Correctional Facilities: <ul style="list-style-type: none"> ○ Purchased over \$5.2 million in exterior and interior LED lighting fixtures for Adult Correction. We have now purchased over 93% (up from 85% last year) and installed approximately 73% (up from 60%) of all exterior lighting fixtures required. ○ Completed 24 Small Business Energy Savers (SBES) LED lighting projects for both Adult Correction and Enterprise Operations <p>FY 23-24 Targets:</p> <ul style="list-style-type: none"> • Adult Correctional Facilities: <ul style="list-style-type: none"> ○ Complete the last remaining LED lighting projects by June 2024.² ○ Fund the purchase of fixture lenses for inmate cells at the Thousand Cells ○ Draft an RFP for a performance contract for Central Prison and potential solar systems across the state. 	
<p>1.1.2 <i>BMS: Fix in '26!</i> Campaign</p>	<p>Underway</p>
<p>Expected Completion Date: FY 26-27</p> <p>Convert all sites to a common Niagara based building management system (BMS) platform, implement data analytics and begin on-going commissioning of these systems to reduce energy use on-site.</p> <p>FY 22-23 Successes:</p> <ul style="list-style-type: none"> • Adult Correctional Facilities: <ul style="list-style-type: none"> ○ Installed all necessary controls and hardware for Johnston Correctional Institution ○ Completed graphics for the same. ○ Integrated the North Carolina Correctional Institution for Women (NCCIW) Segregation Chiller into BMS Niagara standard. ○ Integrated Granville Correctional Institution maximum security lockup unit into the BMS Niagara standard. ○ Integrated disparate Central Prison systems to BMS Niagara standard. ○ Complete Nash Correctional Institution BMS upfits at Heating Plant, C Dorm, and Food Services ○ Fund all Thousand Cells Building Advisory platforms <p>FY 23-24 Targets:</p>	

² Central Prison and Thousand Cells excepting as noted in Footnote 1

- Adult Correctional Facilities:
 - Request ~\$10M additional funding for BMS projects
 - Complete Tier 2 Graphics and implement at all future projects
 - Contract Warren Correctional Institution Phase I BMS upfit
 - Purchase training cases for control cases and teach two classes
 - Central Prison: Upgrade Kitchen unit to Niagara Platform, add Schneider/Niagara driver and update all graphics
 - NCCIW: Upgrade Niagara platform for Robin Unit #1, Admin Building, Seg A and Maintenance controls
 - Neuse: Convert AHU variable inlet vanes to variable speed drives
 - Orange CI: Upfit 50 Man Dorm BMS controls
 - Granville: Convert Variable Inlet Vanes on AHUs to variable frequency drives and single cell VAV BMS upfits

1.1.3 Use performance contracting to reduce on-site energy use	Underway
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Expected Completion Date: FY 26-27

FY 22-23 Successes:

- Adult Correctional Facilities:
 - Performed investment grade audit for the Thousand Cell facilities and selected the energy and water conservation measures for the project.

FY 23-24 Targets:

- Adult Correctional Facilities:
 - Execute an Energy Services Agreement for the Thousand-cell facilities to include full LED lighting, water efficiency and management systems, BMS upfits and other efficiency opportunities.
 - Begin the process to initiate a performance contract at Central Prison

1.1.4 Update water management systems at Adult Correctional Facilities	Underway
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Expected Completion Date: FY 28-29

FY 22-23 Successes:

- Purchased over \$5M in water management systems for 14 sites

FY 23-24 Targets:

- Begin pilot installations at three sites.

1.2 Support the use and expansion of energy efficient and clean energy resources

1.2.1 Install solar power at Adult Correctional Facilities	Underway
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Expected Completion Date: December 2025

<p>FY 22-23 Successes:</p> <ul style="list-style-type: none"> • Adult Correctional Facilities: <ul style="list-style-type: none"> ○ Successfully included a solar power purchase agreement for Tabor CI in the Thousand-cell performance contract <p>FY 23-24 Targets:</p> <ul style="list-style-type: none"> • Develop an RFP for a Central Prison performance contract that includes the potential for solar installations at all our other correctional facilities.
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1.3 Increase the number of registered Zero Emission Vehicles to at least 1,250,000 by 2030 so that 50% of in-state sales of new vehicles are zero-emission by 2030

This section is not applicable to our department.

1.4 Prioritize Zero Emission Vehicles (ZEVs) in the purchase or lease of new vehicles and for agency business travel

1.4.1 Convert vehicles to clean diesel	Underway
<p>Expected Completion Date: FY 24-25</p> <p>FY 22-23 Successes:</p> <ul style="list-style-type: none"> • NCDAC was awarded a \$3.8 million grant for heavy equipment clean diesel replacements and charging infrastructure (Volkswagen Settlement Phase II) and \$4.1 million for Transit Bus replacement. <p>FY 23-24 Targets:</p> <ul style="list-style-type: none"> • Purchase at least 32 shuttle buses, 26 Heavy Duty class 4-8 trucks and decommission all vehicles involved in VW grant. 	
1.4.2 Convert vehicles to ZEVs	Underway
<p>Expected Completion Date: FY 29-30</p> <p>FY 22-23 Successes:</p> <ul style="list-style-type: none"> • Purchased an additional 10 Level II stationary recharging stations (for a total of 20 stations) • Purchased 19 BEAM solar charging stations • Began purchasing hybrid vehicles to replace our existing internal combustion systems <p>FY 23-24 Targets:</p>	

- Install charging stations at four 1000-cell facilities as part of our Guaranteed Energy Savings Performance Contract
- Deploy 19 Beam Solar Charging stations already purchased
- Order and Deploy 15 more Beam Solar charging stations, grant permitting
- Work with DOA to get Beam Solar on a State Term Contract
- Convert 25% of our internal combustion engines (ICE) units to hybrids

1.5 Initiate other initiatives to decarbonize the transportation sector

This section is not applicable to our department.

1.6 Initiate other projects aimed at reducing statewide greenhouse emissions

<p>1.6.1 Obtain Natural Heritage Land Dedication for correctional facility lands</p>	<p>Underway</p>
<p>Expected Completion Date: FY 29-30</p> <p>FY 22-23 Successes:</p> <ul style="list-style-type: none"> • Obtained Natural Heritage Land Dedications for five additional sites (NC Correctional Institution for Women, Granville Correctional Institution, Roanoke River Correctional Institution, Carteret and Franklin Correction Center) <p>FY 22-23 Targets:</p> <ul style="list-style-type: none"> • Obtain Natural Heritage Land Dedication for Johnston CI • Pilot native grass installation at Roanoke River Farm 	

2.0. Increase statewide resilience to the impacts of climate change

2.1 Evaluate the impacts of climate change on cabinet agencies’ programs and operations

<p>2.1.1 Conduct a vulnerability assessment of facilities within the Division of Adult Correction</p>	<p>Underway</p>
<p>Expected Completion Date: December 2024</p> <p>Funding in the amount of \$3 million was approved to begin Phase I of a Comprehensive Facility Strategy for our Prison Facilities. The funding is an initial step of a \$25 million effort to develop an operational strategy and model for the prison system. It will include a vulnerability review as part of Facility Condition Assessment for as many prisons as can be assessed in Phase 1 of</p>	

the total work. The Condition Assessments will be coupled with operational data to determine the most efficient usage of all resources for the custody management of inmates.

2.2 Integrate climate change adaptation practices and resiliency planning into cabinet agencies’ policies and operations

2.2.1 Develop a NCDAC Resiliency Strategic Plan	Proposed
<p>Expected Completion Date: Annually 2024</p> <p>Develop a Resiliency Strategic Plan that addresses:</p> <ul style="list-style-type: none"> • A general awareness program for all staff from leadership to staff in the field and identify issues relevant to specific programs and operations • Identifying the potential for heat stroke and other potential physical and mental health issues related to climate change • Identification and focus on sites in potential flood plain areas and addressing the impacts: Flooding and flood mitigation, potential dam breach areas, infiltration of our stormwater and sewer systems, and other hardening of facilities (Such as relocating equipment above flood plain areas, etc.) • Identification of any remaining un-airconditioned spaces and action plan to address • Identifying energy and water efficiency efforts that can assist mitigate any of these challenges while reducing energy/water intensity • Identify existing buildings and sites in flood prone areas and determining most cost-effective strategies to address resiliency • Addressing potential impacts to our farmlands including flooding and droughts • Land conservation and restoration • Coordination with appropriate cabinet agencies including Emergency Management • Development of BEAM charging stations to address critical power needs during extreme weather events • Hurricane evacuation routing for inmate and staff populations • Identifying and maintaining site capacity to handle extreme events 	

2.3 Assist the communities served by each cabinet agency to implement climate change adaptation practices and resiliency planning

This section is not applicable to our department.

2.4 Help complete initiatives in the Natural and Working Lands Action Plan

See Section 1.6.

2.5 Initiate other projects aimed at increasing statewide resilience to the impacts of climate change

This section is not applicable to our department.

3.0. Address the public health impacts of climate change

3.1 Increase understanding and awareness of the health impacts of climate change

See 2.2.1 above.

3.2 Advance health equity

3.2.1 Design and install air conditioning in our uncooled offender bed areas	Underway
Expected Completion Date: Calendar Year 2026 A FY 22-23 Successes: <ul style="list-style-type: none">• Completed air conditioning designs for 4,770 beds.• Completed air conditioning installations for 72 beds FY 23-24 Targets: <ul style="list-style-type: none">• Complete air conditioning designs for an additional 6,100 beds• Complete air conditioning installations for 2,200 beds	

3.3 Initiate other projects aimed at addressing the public health impacts of climate change

This section is not applicable to our department.

4.0. Invest in historically underserved communities

This section is not applicable to our department.

4.1 Increase affordability for low- and moderate-income households

This section is not applicable to our department.

4.2 Create jobs and economic growth

This section is not applicable to our department.

4.3 Alert residents and businesses, particularly those in underserved communities, of state and federal grant opportunities

This section is not applicable to our department.

4.4 Initiate other projects aimed at investing in underserved communities

This section is not applicable to our department.

Additional Information

No additional information to share.