



North Carolina Department of Information Technology (DIT)

Executive Order 80

NCDIT Environmental Resilience Strategy 2021-2022 Implementation Status Report

Climate Change and Transition to Clean Energy Economy

NCDIT-DCS-EDC / WDC – 0070-B

Version 1.0

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Easter and Western Data Centers

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1 NCDIT Going Green

This report is in response to Governor Cooper's [North Carolina's Executive Order EO 80](#) of October 29, 2018, calling for integration of climate adaptation and resilience planning into Department of Information Technology's (DIT) policies, programs, and operations. DIT has fully engaged its staff to evaluate internal, as well as external information technology programs in developing a resiliency strategy to support other State of North Carolina agencies and communities.

DIT continues to evaluate information technology software and hardware solutions to reduce energy consumption and to implement newer energy consumption tools for monitoring within our DIT Data Centers. We are presently investing millions in these tools to identify energy consumption and to improve resiliency through near and long-term climate changes.

DIT's Eastern and Western Data Centers consume the largest amount of energy in our organization. We continue to invest in people and technology to reduce climate change risks associated with our ability to support other state agencies and their own individual resiliency programs.

2 NCDIT Environmental Goals and Objectives 2021

DIT's continued focus in 2021 is to reduce the impacts on the effects of global climate change. This includes reducing reliance on producing and printing paper reports, reducing our carbon footprint, and increasing employee awareness about DIT's role in reducing risks regarding climate change impacts.

2.1 Reduction of Paper Processing and Printing

NC DIT has successfully reduced paper processing by promoting electronic reporting and distribution to state agencies. After meeting with state agencies about their individual paper reporting requirements, DIT was able to reduce over 90 percent in paper production to those agencies.

2.2 Improving Energy Efficiency

2.2.1 EDC and WDC Facilities and Raleigh Headquarters

NC DIT is reducing internal environmental impacts by improving energy-efficiency in our Eastern Data Center (EDC) and Western Data Center (WDC) facilities, and in our Raleigh headquarters. This is being accomplished by implementing additional monitoring tools and augmenting manual processes that are already in place.

2.2.2 EDC Power Resources Upgrade Replacement

There is a major power replacement project in the final study phase, that once completed, will provide total control of EDC Data Center power resources and allow detailed capability to monitor all power sources and utilization of these power resources.

2.2.3 Procurement of Energy Efficient Technology and Vendor Assessments

NC DIT continues to focus our procurement activity to ensure and identify energy-efficient information technology equipment. We are evaluating our working relationships with current and future vendors to assess opportunities in reducing environmental impact in procurement activities.

2.2.4 WDC Energy Grant – Electric Vehicle (EV) Charging Station

At our alternate WDC location, DIT's Energy Manager has requested and received an energy grant to assist with procurement of an electric vehicle (EV) station for charging EV vehicles. Our team continues to analyze our use of long-term lease and motor fleet vehicles to determine if there are opportunities to improve energy efficiency by adding electric vehicles for supporting our EDC location.

2.2.5 Increasing Employee Environmental Awareness and Telecommuting Opportunities

DIT continues to focus on employee-centric programs that increase environmental awareness and to increase opportunities for telecommuting.

3 NCDIT Proposed Goals and Next Steps 2022

3.1 Electronic Report Distribution

Electronic report distribution reduces paper waste and paper processing, which reduces impacts on the environment. Goals include:

1. Encouraging agencies to use eBooks and iPad technology devices for reading reports to reduce paper usage and eliminate daily paper reporting,
2. Continue to enhance our mainframe and distributed applications and increasing our promotional efforts to significantly reduce statewide paper processing,
3. Encouraging agencies to enhance conference rooms with newer technologies that allow easy informational presentations, from laptops to electronic wall displays, to eliminate the need for paper reporting during meetings and briefings.

3.2 Reduce Internal Environmental Impacts

3.2.1 Improve Energy Efficiency at NC DIT Data Centers

1. Work with the facilities manager to continue adding energy-efficient features as preferences when operating from state-owned or leased facilities.
2. Consider requiring charging stations for zero-emissions vehicles.
3. Evaluate the energy-efficient features of current facilities.
4. Discuss plans for energy-efficient improvements with vendors.
5. Continue use of or install motion-activated lighting in individual offices.
6. Replace data center utility systems that are not energy efficient.
7. Incorporate data center information management tools to monitor energy management and heat displacement.
8. Evaluate the utilization of individual modular rack coolant environmental systems, instead of cooling the entire data center room.

3.2.2 Improve Energy Efficiency at NC DIT Headquarters

1. Continue and expand the use of automatic lighting timers.
2. Continue collaborating with the N.C. Department of Environmental Quality Energy Manager and identify opportunities to reduce energy consumption.
3. Continue improving HVAC systems to increase efficiency, as they lifecycle out.

3.2.3 Procurement

1. Add new language to solicitations for energy-efficient features and vendors supporting energy efficiency.
2. As part of the agency replacement plan, purchase more energy-efficient equipment, such areas as:
 - a. Data Center Power distribution units
 - b. Cooling units
 - c. Servers (produces less heat)
 - d. LED lighting

3.2.4 Vehicles

1. Analyze the use of long-term lease and motor fleet vehicles,
2. Identify opportunities to lease hybrid vehicles,
3. Identify opportunities to use zero-emission vehicles offered by motor fleet.

3.2.5 Employee Centric Programs

1. Continue to expand teleworking opportunities,
2. Promote Executive Order 80, by posting information on energy conservation in DIT Data Centers,
3. Create marketing and awareness campaigns to encourage recycling and other energy conservation best practices.

4 NCDIT Annual Evaluations and Reports to NCDEQ

NCDIT continues with annual evaluations of our energy utilization at Eastern Data Center and the Western Data Center. We report this information to NCDEQ for evaluation assistance and in developing possible solutions to reduce energy costs while reducing our overall impact on North Carolina's climate.

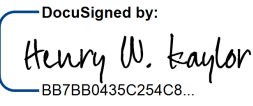
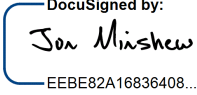

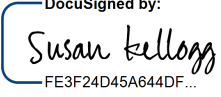
NCDIT continues to improve our ability to manage power and other energy-related resources that support our programs. This includes enhancing our monitoring and management capabilities for reporting and analyzing energy usage. Our carbon reducing activities will continue each year as EDC and WDC data centers' evaluation reports are analyzed by NCDEQ.

5 Revision History

Ver.	Date	NCDIT Author or Reviewer	Revision Description
1.0	03.05.2021	Henry W. Kaylor, Director, Data Center Hosting Services Henry.Kaylor@nc.gov 919-754-6320 Work/ 571.330.1392 Mobile	Initial version
1.0	03.05.2020	Nathaniel Denny DIT, Eastern Data Center Nate.Denny@nc.gov 919-754-6715	Initial version
	03.08.2021	Jennifer Willard IT Technical Writer, NCDIT Cybersecurity and Compliance Jennifer.willard@nc.gov 919-754-6485 office 919-302-5107 mobile	Revisions Completed.

6 Approvals

Completion of the signature blocks signifies that approvers have read, understood, and agree with the content of this document.

Approved by	Signature Approval	Date
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