



State University
Construction Fund

**Directive: 1B-2 CLCPA, E.O. 22 and SUNY Policy
Compliance**

Responsible Office: Design & Construction

Last Revised Date: January 2024

SUMMARY

This Directive provides the consultants with the requirements of the State University Construction Fund (SUCF) for SUNY projects. The requirements detailed within are to be implemented into the project's specifications and/or drawings. The intent is not for the specifications or drawings to reference back to this document for compliance nor is it intended to override or amend the applicable laws or codes where either is more stringent.

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Section 1 – GENERAL

A. PURPOSE

1. The purpose of this Directive is to facilitate compliance with SUNY’s energy and carbon reduction goals, New York State’s [Climate Leadership and Community Protection Act](#) (CLCPA) and [Executive Order 22](#).

B. ENERGY CODE COMPLIANCE PATHS

1. All projects are required to comply with the [NYStretch Energy Code – 2020](#), the compliance paths shall be limited to the ASHRAE 90.1 options listed in section C401.2.

C. NEW CONSTRUCTION – NET ZERO CARBON (NZC)

1. Design all new construction building projects to achieve SUNY’s goals for NZC buildings.
 - a. It is recognized that project funding may not be able to include on-site renewable energy capable of supplying carbon-free energy sources. In those cases, the design goal will be to design the building as NZC capable.

D. EXISTING CONSTRUCTION – DEEP ENERGY RETROFIT (DER)

1. Design existing building projects, which are identified as building major renovations (single or multi- phased) to achieve SUNY’s goals for Deep Energy Retrofits.
 - a. Some building types (i.e. historic buildings) may have limitations on the type of work that is possible or appropriate. Historic buildings or other exemptions to the EUI targets must be approved by SUCF.

E. PARTIAL RENOVATIONS OR SYSTEM/COMPONENT REPLACEMENTS

1. When the project scope does not fall into either the Net Zero Carbon or the Deep Energy Retrofit category it shall fall under this category which requires it to comply with the requirements of the NYStretch Energy Code - 2020.

Section 2 – CARBON REDUCTIONS

A. GENERAL

1. New or replacement systems and equipment (HVAC, DHW, etc.) must be electrically powered. On- site combustion of fossil fuel and biofuels is prohibited, except for emergency back-up power and emergency heat, and other special cases (i.e. laboratory process loads, kilns, kitchen equipment) which are submitted for approval to the SUCF Project Coordinator.
2. Installation of new fossil fueled central heating plant or building heating equipment (boilers, generators) is only allowed if the following criteria are met and the approval of the SUCF Program Manager:
 - There is an absolute necessity due to imminent failure of the equipment and non-fossil fuel systems from the Clean Energy Master Plan (CEMP) are unable to be installed due to technical, funding or time restrictions.
 - The fossil fuel equipment being replaced allows itself to be utilized for emergency backup once the non-fossil fuel-based systems from the CEMP are installed.

3. Connections (new or existing) to existing fossil fueled central plants; may only occur or remain if there is a completed CEMP detailing how the campus will meet the goals of the CLCPA or a commitment to decarbonize the central plant prior to 2050 is documented by the campus.

Section 3 –ENERGY REDUCTIONS

A. NZC AND DER EUI TARGETS

1. The following table presents the EUI targets for typical building/space types on SUNY campuses for both Net Zero Carbon, and Deep Energy Retrofit projects. Deep Energy Retrofit construction is broken down into two categories, for buildings where the heating and cooling generation sources are onsite and for buildings connected to existing fossil fueled central plants. Onsite source may serve one or more buildings.
2. For projects with multiple use types see calculations section for further clarification how to determine EUI targets. For any unique building types or other conditions that are not addressed by the directive, coordinate with the SUCF Project Coordinator to determine an approved EUI target.
3. The EUI calculation for buildings connected to an existing fossil fueled central plant should exclude the efficiency of the central plant equipment and represent metered chilled water and hot water loads.

BUILDING/SPACE TYPE	NET ZERO CARBON	DEEP ENERGY RETROFIT	
		ONSITE	CENTRAL PLANT
Theater, Performing Arts, Sports Arena	22	24	27
Gymnasium, Field House, Fitness Center, Multipurpose/assembly space, Student Activities Center, Broadcasting Studio	26	30	33
Ice Rink, Pool	130	143	157
Office	29	36	41
Classroom	30	38	44
Residence Hall	35	47	52
Clinic/Outpatient Facility	41	45	50
Preschool/daycare	44	50	55
Public Safety/ Campus PD, Library	58	65	72
Coffee Shop, café	79	89	99
Hospital/Inpatient Health	113	127	141
Lab: Physics/Geology	128	167	185
Kitchen with dining area	144	162	180
Lab: Bio/Chem (wet)	160	208	231

B. EUI CALCULATIONS

1. For projects with multiple use types, use a weighted EUI target.
2. When the individual use type constitutes less than 10% of the total building gross

floor area, do not use weighting and classify them the same as majority use type of the building.

- For projects that include additions to existing buildings, use a weighted average of NZC and DER portions to identify the project’s EUI target.

Example Calculation: $EUI_t = (A1\% \times EUI_1) + (A2\% \times EUI_2) + (A\% \times EUI\#)$

Where: EUI_t = EUI target, A# = Area for use type, EUI# = EUI target from applicable tables

Section 4 – EMBODIED CARBON

A. EMBODIED CARBON REPORTING

- For projects exceeding a construction value of \$1 million, and where the quantity of covered construction materials listed in the table below are provided the Design team will require in the technical specifications reporting of the material quantities by the contractor, and the submission of environmental product declarations (EPDs) when available, that include the amount of embodied carbon in given building materials. The EPDs shall be product-specific, facility-specific and/or supply chain-specific. See FUND General Requirement section 01 33 29 Sustainable Design Reporting.
- Using information provided by the contractor, both the quantity of the applicable covered construction materials and the EPDs will be input into a web-based reporting tool, [EC3](#). The EC3 project template will be created by the owner’s project coordinator and access will be granted to the Design team to complete the template and upload the EPDs if not already in EC3’s existing database.

Covered Construction Material	Minimum quantity for disclosure
Concrete Mixes	50 cubic yards
Asphalt mixes	16,854 pounds or 10 cubic yards
Steel - Rebar	20,000 pounds
Steel - Hollow Structural Sections	5,000 pounds
Steel - Fabricated Steel Plate	5,000 pounds
Steel - Hot-Rolled Sections	5,000 pounds
Steel - Cold-Formed and Galvanized	5,000 pounds
Glass – Flat Glass	2,000 square feet
Glass – Processed Glass	2,000 square feet
Glass – Insulated Glazing Units	2,000 square feet

B. LOW EMBODIED CONCRETE

- For projects exceeding a construction value of \$1 million, and where the quantity of concrete utilized is 50 cubic yards or greater the requirements of the [NYS Buy Clean Concrete Guidelines](#) will need to be met. The concrete shall be specified to meet the maximum allowable Global Warming Potential (GWP) limits listed in the guidelines unless it can be documented there is a reason for an exemption such as the necessity for high-strength concrete, quick cure concrete or emergency construction.

2. A waiver will need to be requested if suppliers cannot meet the GWP limits or if they are unable to provide EPDs. The waiver request shall include the following information.
 - (i) the concrete mix(es) being given the exemption, including compressive strength.
 - (ii) provide documentation of mix composition if no EPD is available.
 - (iii) the reason for the exemption, for example, the only available suppliers in the local area currently not being able to produce EPDs yet, or unavailability of materials to produce low embodied carbon mixes.
 - (iv) the methods that will be used to reduce concrete GWP on the project. If no methods were taken, contractor should set forth the reason(s);
 - (v) any other factors affecting the decision to grant a waiver.

Table from NYS Buy Clean Concrete Guidelines

Specified compressive strength (f'c in PSI)	Maximum Global Warming Potential Limits for Low Embodied Carbon Concrete
0-2500	275
2501-3000	302
3001-4000	360
4001-5000	434
5001-6000	458
6001-8000	541

These limits reflect 150% of the Eastern Region average GWP figures from the National Ready Mix Concrete Associations' "A Cradle-to Gate Life Cycle Assessment of Ready-Mixed Concrete Manufactured by NRMCA Members- Version 3.2 "(Jul 2022), page 62-66

Section 5 – REPORTING

A. EMISSIONS CALCULATIONS

1. All projects shall calculate Greenhouse Gas site emissions utilizing the following factors.

Energy Type	Emissions Rates
Electricity - Upstate	233.1 lbs./MWH
Electricity – New York City/Westchester	816.8 lbs./MWH
Electricity – Long Island	1210.9 lbs./MWH
Natural Gas	117.0 lbs./MMBTU
Fuel Oil #2	161.3 lbs./MMBTU
Propane	138.2 lbs./MMBTU
District Chilled Water Natural Gas Absorber	163.0 lbs./MMBTU
District Chilled Water Electric Driven	116.0 lbs./MMBTU
District Steam / Hot Water	146.0 lbs./MMBTU

B. EXECUTIVE ORDER 22 PROJECT-LEVEL ENERGY SAVINGS REPORTING

1. Every project is required to document energy savings for NYS reporting purposes, provide the information in the format below to the FUND and to the Campus with the Pre-bid submission.

EXECUTIVE ORDER 22 PROJECT-LEVEL ENERGY SAVINGS REPORTING

Project # and Title

Form Completed by Firm Individual and Title

Date Completed

Calculated Energy Savings

Electricity (kWh)

Natural Gas (Therms)

Fuel Oil (Gallons)

Purchased Steam (MLBs)

Purchased Chilled Water (Ton-Hours)

Propane (Gallons)

Photovoltaic (kWh)

Other

Basis of Energy Savings Comparison

Code Minimum

Existing Metered Data

Other