### COMPREHENSIVE APPROACH TO DEVELOPING SUNY'S STRATEGIC ENERGY PLAN

# NEW YORK / SUNY'S STRATEGIC ENERGY PLAN (DRAFT)

# PHYSICAL IMPROVEMENTS

- Net Zero approach to new construction
- Deep retrofits
- Targeted energy-efficiency measures
- Design to LEED Silver standard, then invest in low carbon footprint
- Microgrid-ready campuses/Pilot Microgrid
- Increase self-renewable generation—solar, wind, hydro
- Seek to buy renewable generation equipment manufactured in New York
- Increase Energy Storage Capacity

# OPERATIONAL TACTICS

- Develop Campus Strategic Energy Plans
- Implement software across SUNY campuses to improve preventative maintenance, resulting in energy savings
- Standardize Operations & Maintenance protocols
- Constant commissioning using big data, machine learning, artificial intelligence (NYEM)
- Develop a SUNY-wide Power Purchase Agreement (PPA)
- Maximize utility interconnections to be micro-grid ready
- Integrated design through Design-Build approach
- Maximize NYSERDA, NYPA, National Grid and Con Ed Programs
- Green Revolving Funds

# WORKFORCE DEVELOPMENT

- Curriculum development to meet existing and future clean energy workforce needs
- Partnership with industry to explore experiential learning experiences for students
- SUNY-trained, SUNY-employed pipeline, expandable to other NYS agencies
- Target training programs that meet industry and facility management needs

#### **RESEARCH & INNOVATION**

- Energy Storage
- Off-Shore Wind and Large-Scale Renewable Energy Development
- Distributed Energy Resources and Grid Modernization for Resilience
- Reducing Carbon Footprint in Built Environment (Smart Buildings etc.)
- Advanced Clean Transportation
- Clean energy technology prototyping and commercialization
- Clean energy startup incubators

#### **CURRENT AND FUTURE CLEAN ENERGY GOALS**

NYS Executive Order (EO) 88 mandating a 20 % reduction in Source Energy Use Intensity (EUI) at State facilities by 2020 from 2010-11 Level

• SUNY has currently achieved a 14.7 % reduction and when including committed projects SUNY is projecting to realize a 18.2 % reduction.

New York's 2030 targets via the **State Energy Plan** as well as EO 166:

- 40% reduction in GHG emissions by 2030 from 1990 levels
- 50% of electricity generation from renewable energy resources by 2030
- 600 trillion btu (Tbtu) increase in statewide energy efficiency (25% Reduction in Energy Use)

#### **Chancellor initiatives:**

- Sourcing 100 % of electricity grid supplied electricity from renewable sources
- Designing new buildings to be capable of zero-net carbon emissions
- Performing deep energy retrofits on existing buildings to bring them to net zero
- Enhancing workforce development for both existing SUNY employees and for the future clean energy workforce, and having an energy manager at each campus.

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