New Castle County VoTech School District

SEIBERLICH ENERGY SERVICES TRANE

New Castle County Vocational Technical School District (NCCVT) operates four technical high schools and an administration building spread throughout New Castle County, Delaware. Their high schools serve over 4,800 students, equipping them with a hands-on education in a variety of career areas.

NCCVT partnered with Seiberlich Trane Energy Services to upgrade their learning facilities, address deferred maintenance, and reduce their energy consumption and carbon footprint. All four buildings received updated LED lighting, indoor air quality improvements, and water conservation upgrades. Two 25 year-old boilers were replaced with 8 high-efficiency condensing boilers at Delcastle High School to drastically reduce gas consumption. The upgrades were completed with minimal disruption to students and staff. The project utilized funding from Energize Delaware's Solar for School Districts Grant program to install three arrays of solar power totaling 750 kW at St. Georges High School. All of the upgrades reduced the district's carbon footprint by 25%.

Being a vocational-technical school, the energy project was leveraged as a learning tool for students by including career panel discussions at all four high schools. The project team shared personal stories of their career paths and what they look for when hiring co-op students and new employees.

"Seiberlich Trane Energy Services has been an invaluable resource. From audit to design to project execution the results were aesthetically pleasing and, more importantly, energy efficient. STES is helping NCCVT not only reduce our carbon footprint, but provide career opportunities for our students." Al Schrum, Jr. Supervisor of Facilities Management, NCCVT

Project Objectives

- Improve building comfort and air quality
- Better space lighting
- Increase energy savings
- Address deferred maintenance

Energy Conservation Measures Installed

- Boiler replacement with high-efficiency units
- Building envelope
- BAS controls optimization and upgrade
- UVGI air purification in air handlers
- Lighting retrofit and upgrades
- Mechanical insulation
- Solar array installation
- Water conservation

Project Results

The project improvements are expected to realize both energy and operations savings including:

- **2,992,198 kWh of electricity**
- **107,762 therms of gas**
- **2,622 kGal of water**

The annual environmental impact of the project:

- **2,691 metric tons CO_2e emissions reduction**

ANNUAL ENVIRONMENTAL IMPACT OF PROJECT

Greenhouse Gas Emissions Avoided From

640

Passenger vehicles driven for one year

CO2 Emissions Avoided From

351

Homes' energy use for one year

Greenhouse Gas Emissions Avoided By

934

Tons of waste recycled instead of landfilled

Carbon Sequestered By

44,496

Tree seedlings grown for 10 years

Seiberlich Trane Energy Services is the leader in creating and sustaining comfortable, healthy, environmentally friendly buildings.