

Project Profile



Emergency Room



Main Entrance



Teaching Hospital
US Metropolitan Area

Fast Facts

Hospital in a suburb of a major U.S. metropolitan city.

- Year Built: The original building opened in 1967, with several wings being added through 2006
- Size: 455,000 SF
- Use: Inpatient and outpatient teaching hospital

Energy Conservation Measures:

- Retrofit Lighting
- Update HVAC Automation System
- Increase Boiler Efficiency
- Install New Media in Energy Recovery Wheels
- Improve Operation of Air Handling Units

Investment: \$656,900

Estimated Savings (year 1): \$243,850

Payback: 2.7 years



Project Profile

Hospital in a suburb of a major U.S. metropolitan city

Project Background

After countless renovations and additions, hospital leadership realized it was time to look at building energy use on a holistic basis, not just wing by wing, or floor by floor. Under a grant from the local utility, Newman Consulting Group conducted an ASHRAE Level 1.6 energy analysis and found several opportunities to save money and energy while improving indoor air quality. A win-win for the hospital and the patients!

Energy Conservation Measures

- **Retrofit Lighting**
 - Upgraded lighting in Parking Garage and Parking Lots from T8s to LEDs
 - Cost: \$68,000
 - Savings: \$29,100/year
 - Payback: 2.3 years
- **Update HVAC Automation System**
 - Changed setpoints for cooling and heating space temperatures and chilled water leaving temperature
 - Optimized start-stop times where possible
 - Reduced airflow in operating rooms when unoccupied
 - Gave operators better and more accurate control
 - Cost: \$29,550
 - Savings: \$31,450/year
 - Payback: 0.94 year
- **Increase Boiler Efficiency**
 - Adding economizers to boilers increased energy efficiency from less than 80% to 93%.
 - Cost: \$360,000
 - Savings: \$133,000/year
 - Payback: 2.7 years
- **Install New Media in Energy Recovery Wheels**
 - Replacing the media in the seven large, custom energy recovery wheels greatly improved variability of outside air resulting in significant savings. The additional outside air improved IAQ (indoor air quality), minimized infection risk and helped the hospital meet the current ASHRAE Ventilation Standard for Hospitals.
 - Cost: \$73,350
 - Savings: \$32,500/year
 - Payback: 2.3 years
- **Improve Operation of Air Handling Units**
 - Changed some AHUs from constant volume to variable volume. This led to lower air flows, which required less reheat in VAV boxes, lowering energy required for boilers.
 - Added VFDs to those units further reducing fan energy use and noise levels.
 - Cost: \$126,000
 - Savings: \$29,600
 - Payback: 4.3 years

About Newman Consulting Group

Newman Consulting Group, LLC (NCG), headquartered in Farmington Hills, Michigan, is a globally recognized authority in energy efficient buildings. The NCG reputation rests on a team of highly skilled engineers, analysts, program managers and professionals certified in efficiency implementation and verification to guarantee a positive ROI. The team helps commercial, industrial and multi-family property owners all over the U.S. implement energy efficiency projects (including renewable energy such as solar, wind, geothermal), eliminate waste, and save money through innovative financing solutions such as PACE (Property Assessed Clean Energy) and PPAs (Power Purchase Agreements).

Note: Non-disclosure agreement (NDA) in place.