Benefits of HVAC Upgrades

Matawan-Aberdeen Regional School District

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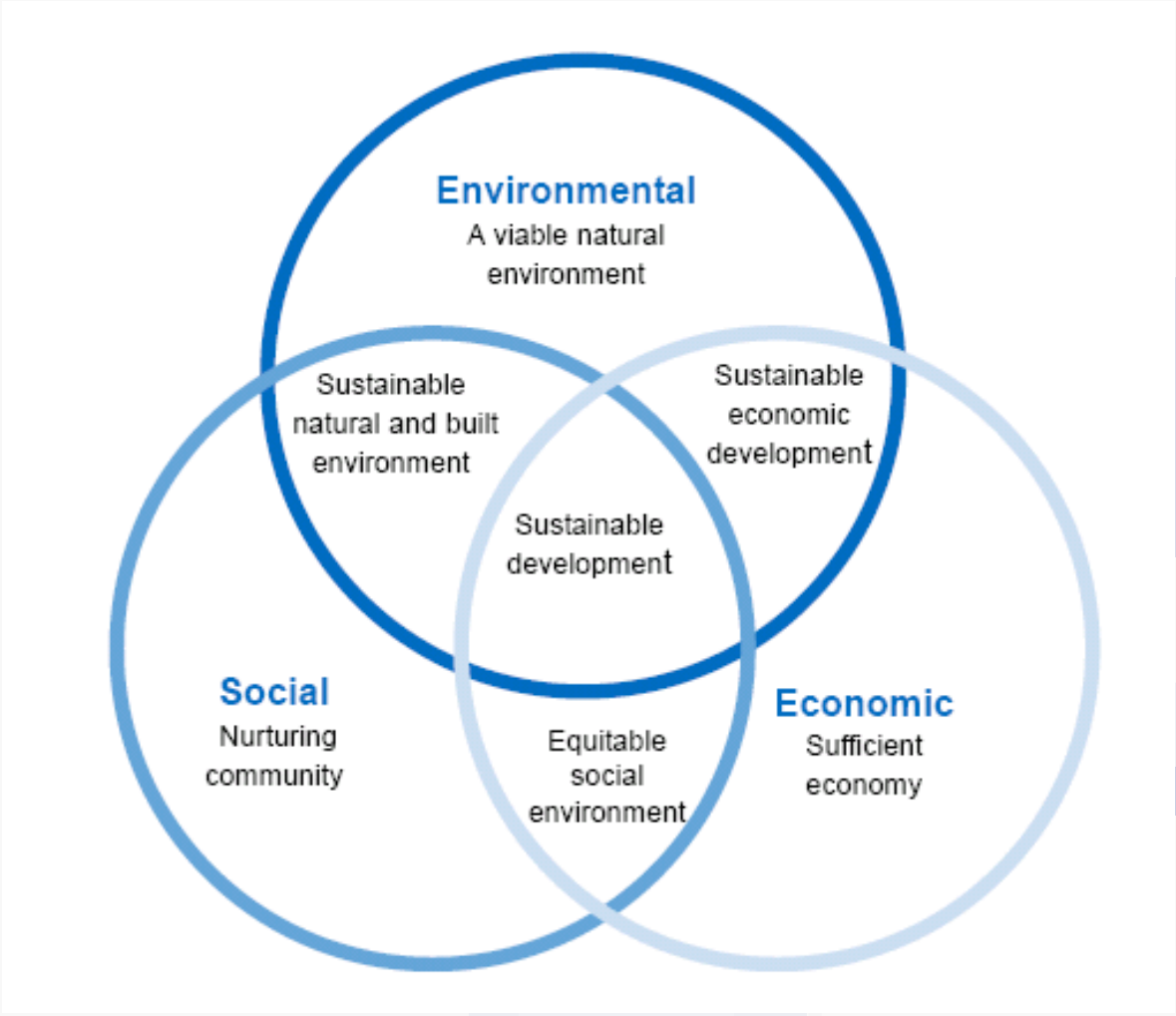
Sustainability

- What is sustainability?

a. Sustainable development and projects aim to meet the needs of the present without compromising the ability of future generations to meet their own needs.

- Using this model, how does a HVAC project promote sustainability?

The Triple Bottom Line (3BL) Model



Environmental Factors

- **The proposed systems will be required to bring the district up to ASHRAE Standard 62 which sets the standard for acceptable indoor air quality.**

Social Factors

- More and more IEPs, 504s, and reasonable accommodation requests are requiring A/C which have to be purchased and installed. More air conditioned spaces open up availability for special education programs, allowing the district to remain competitive with off site providers and also allows the district to stay open longer making it a more attractive venue for event use.
- Students in classrooms with higher outdoor air ventilation rates scored 14 to 15 percent higher on standardized test scores than children in classrooms with lower outdoor air ventilation rates. (1)
- Current ASHRAE standards create better IAQ which has been proven to be beneficial for reducing asthma symptoms and a tool in reducing absenteeism by, but not limited to, reducing the risk of airborne infection. Temperatures at the warm end of the comfort zone tend to increase adverse health symptoms, while temperatures at the cool end of the comfort zone tend to reduce symptoms. Similarly, individuals perceive the quality of indoor air to be better when humidity is at the low end of the comfort zone. (2)(3)(4)
- There is evidence that moderate changes in room temperature (e.g., 77°F to 68°F) affect children's abilities to perform mental tasks requiring concentration, such as addition, multiplication and sentence comprehension. (5)
- Overall, cooler temperatures and modest relative humidity conditions have the most positive impact. (6)
- Children in classrooms with higher outdoor air ventilation rates tend to achieve higher scores on standardized tests in math and reading than children in poorly ventilated classrooms. (7)
- Studies demonstrate a connection between improvements in IAQ — either from increased outdoor air ventilation rates or from the removal of pollution sources — and improved performance of children and adults. (8)(9)(10)(11)(12)(13)
- The performance of adults, including teachers and school staff, has also been shown to improve with higher ventilation rates. (14)(15)

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Recommendation

Authorize submission of projects to the Department of Education, as well as revision of the LRFP.

Questions