Building Evaluation Report

Student’s Name

Institutional Affiliation

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**Review of 2 Different buildings and identification of 6 unique strategies**

**NX Building**

The building has been designed with super-performance windows that help to have better energy saving features for the facility. These windows are thick in layer and allow for easier management of energy within the facility. It is accompanied by the envelope retrofit which is airtight and insulated to allow for superior air control in mitigating thermal bridging. According to Cagbc.org. (2020), the thermal bridging between walls, a wall and a window, and wall to roof points are thus insulated, hence better energy saving features.

The facility has an air-source VRF as opposed to maintaining the temperatures using the college’s Central Unit Plant, which would shut down during the heating seasons. As a result, the air-source VFR was implemented to allowing for proper recovery and transfers of heat between zones in the building. It further allows for heat exchange with ambient air, which means the building has higher energy efficiency.

With regards to lighting, the facility utilizes the Osram Encelium Extended Light Management system. The system is efficient and contains sensors that communicate data and thus allowing for easier management of light in the facility.

**Mosaic Center Building**

One approach that the facility has utilized to becoming energy efficient is to reduce the overhead light fixtures. The firm re-designed their windows and roofs to allow for more natural light in most parts of the facility, thus reducing the need for lighting the institution with electricity and this ensures energy efficiency.

Due to the overhead sun and large demands for cooling in the firm, the use of electronic cooling solutions only could result in energy inefficiency. As a result, the company has opted to design large windows that can open to provide natural air circulation rather than using large fans, and this is a positive venture towards their management of energy and hence a strategy making the company efficient in utilizing its energy resources.

The facility has utilized renewable sources of energy obtained from photovoltaic panels other than reliance on fossil fuels. Furthermore, The Globe and Mail. (2020) notes that the company utilizes geothermal wells towards this process and can sell their electricity to the national grid, which is an efficient way of maintaining energy efficiency and thus having positive outcomes.

**Evaluation of what makes these strategies successful and analysis regarding 2030 targets**

The first three initiatives taken by NX Buildings are in relation to the 2030 targets set within Canada to reduce energy usage and reliance while enhancing the carbon emission ratings for such facilities. When the companies have a more focused life towards sustaining energy-efficient practices, then they are in line with the LEEDS overall requirements to use less energy while utilizing the overall natural sources of energy. Through this, the firm’s overall three approaches are relatively integral to allowing it remain sustainable over time and use less energy in their operations.

For Mosaic Center Building, the primary focus is to lower energy use to almost zero while relying on natural sources of energy. For instance, the use of large windows to allow for natural light is in line with the 2030 expectations of energy preservation that will yield positive statistics on energy savings. Their strategies to use other energy sources such as solar panels are line with the LEEDS requirements on energy preservation and carbon dioxide emission rates, which means their initiatives focus on having a better environment for the surrounding, which is an important venture.

**Analysis of the implementing the strategies at Doon Campus**

At Doon Campus, the three possible implementations would include the restructure of the organization to allow for more natural lighting from the roof and windows, the use of good lighting management systems and reduction focusing on insulating the windows to allow for a warmer environment without the use of monetary resources during cold seasons. These three approaches could be implemented within the campus in about one year as they would require small modifications to the overall structure of the facility while involving the installation of a proper light management system. As a result, the institution would benefit from the approach as it will lead to improved energy efficiency in the facility that yields positive outcomes within the school.

**Final Recommendations**

The best approach to start with among the three would be to expand the windows and use more natural lighting in the institution. Considering the number of individuals who misuse the electronic lights during the day, the use of natural light would help reduce the energy usage and improve the efficiency in energy saving for the company. Through this approach, the facility will have higher efficiency in managing their overall light and its associated resources, which would be essential to lowering costs on energy resources.

References

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