

## **8. Effect on the Use and Conservation of Energy**

### **8.1. Energy for Construction**

The construction process would consume energy in two (2) manners. The majority of energy (typically about 75%) would be consumed in the fabrication of the materials used to construct the facility. The remaining construction-related energy would be consumed during the delivery and assembly of the construction materials.

Economic motivation tends to drive down the consumption of energy from initial fabrication to final assembly. Manufacturers can be more competitive and or profitable if they spend less on energy. Similarly, contractors improve their profits if they spend less on fuel oil and gas, electricity, and transportation.

### **8.2. Energy for Operation**

#### **8.2.1. Energy Demand**

The major energy demands of the Jewish Congregation of Brookville facility would be for heating, air conditioning, and lighting. Electrical consumption from planned activities is estimated to be 2,660 kW per day. The demand for natural gas is estimated at 1,000 decatherms per year. In all likelihood, the Jewish Congregation of Brookville would consume less energy from the significant energy saving measures and materials that will be incorporated into its design.

#### **8.2.2. Energy Conservation**

The Jewish Congregation of Brookville would incorporate energy conservation into the building design to promote conservation and reduce utility expenditures. Wherever economically feasible, energy-efficient technology and management methods would be incorporated into the design. Potential technologies include:

##### Equipment and Design

- Low-wattage fluorescent bulbs
- Lighting reflectors
- Energy-efficient office equipment and kitchen appliances

- High R-value wall and ceiling insulation
- Variable speed fans and pumps
- Vestibule

Management

- Timed and photo-sensor-equipped lighting equipment
- Nighttime set-backs for heating and air conditioning systems
- Programmed optimum start/stop times for heating and air conditioning systems

**8.3. Energy for Travel to and from the Facility**

Vehicles traveling to and from the Jewish Congregation of Brookville would consume energy. Travel-related energy consumption can be computed from Vehicle Miles Traveled (VMT) by utilizing average fuel consumption values for Long Island vehicles. However, the VMT after development of the Jewish Congregation of Brookville would be similar to its current value, as the congregants are traveling now to the rented facility which is approximately 2 miles from the proposed facility.