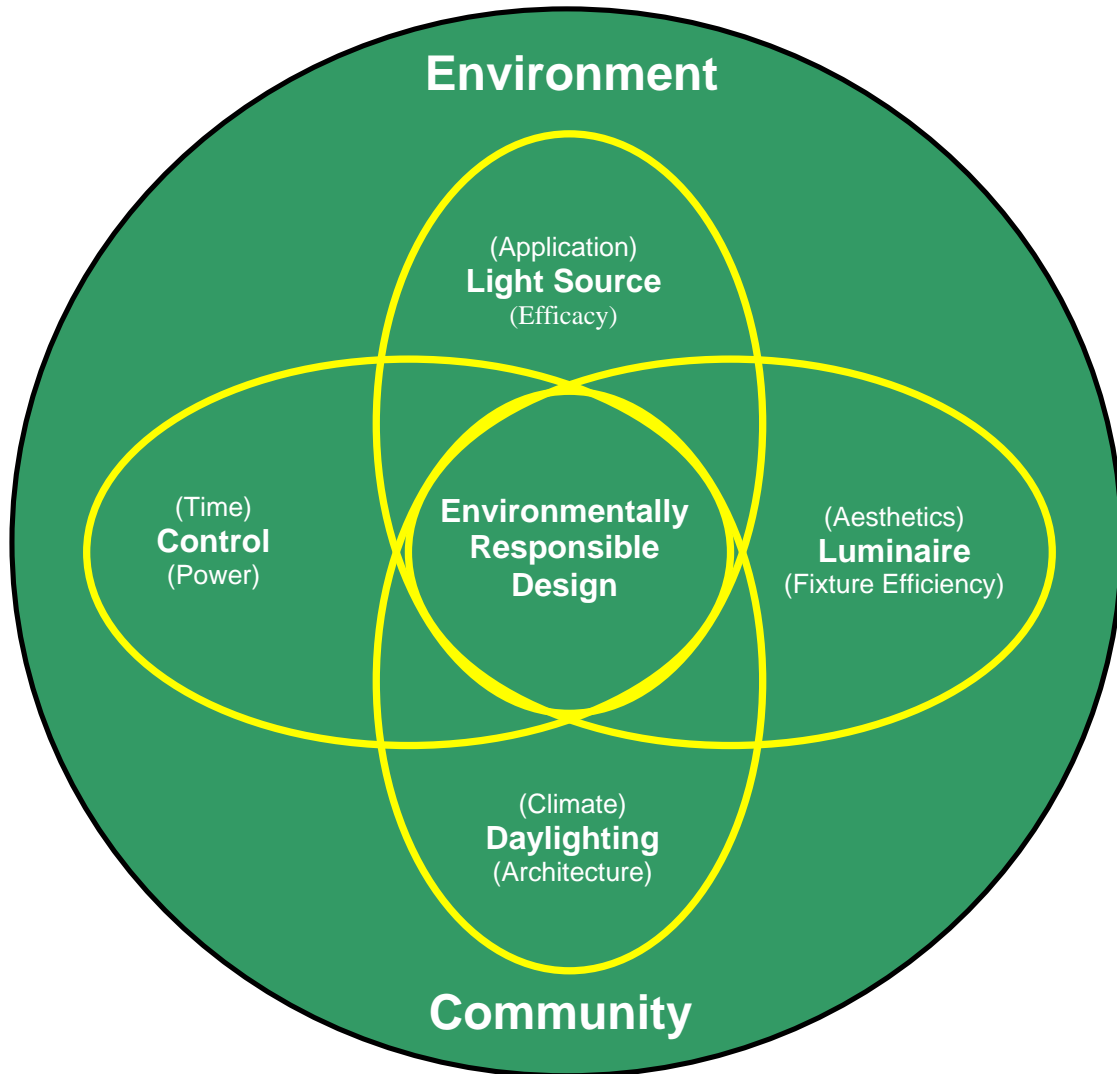


Green Lights

Environmentally Responsible Lighting Design



Providing environmentally responsive lighting with minimum impact on the planet both locally and globally requires a holistic and systematic approach to lighting design. "Green Lights" involves the optimum:

- Siting, massing, and glazing of a structure to maximize daylighting
- Shaping and finishing of interior spaces to facilitate lighting distribution
- Layering, zoning, and control of electric lighting to provide ambient, accent, and/or task lighting where and when required based on the aesthetic desires and visual needs
- Selection of the most efficient light sources, luminaires, and controls practical for each application
- Layout and specification of site lighting to insure safety, provide orientation, and enhance nightscapes, while maintaining a low ambient presence and preserving views of the night sky



Green Lights

Environmentally Responsible Lighting Design

From an environmental perspective one can classify lighting into three categories: “conventional”, “green wash”, and “green lights”.

Conventional

About 3 billion light fixtures illuminate the nation’s 100 million households, accounting for 10%-15% of total residential electricity use. It takes the output from the equivalent of twenty 1,000 megawatt (million watt) power plants to keep these lights burning, and their smoke stack emissions spew more than 100 million tons of carbon dioxide, the primary greenhouse gas, into the atmosphere annually. Though its first costs are relatively inexpensive, “conventional” lighting is both short lived and phenomenally energy-inefficient, making it extravagantly wasteful and expensive on a life cycle economic and natural resource basis. Energy operating costs alone typically account for over 90% of the life cycle operation and maintenance costs of residential lighting and the equivalent of 111 pounds of coal is burned just to keep a single 100 watt light bulb lit over its 750 hour lifetime. Few people give any thought to the far reaching chain of events which occurs when they flick on a light switch.

Green Wash

Over the past decade a myriad of longer lived and more energy efficient light sources, fixtures, and controls have been introduced which provide comparable lighting quality to “conventional” lighting gear but use 25% to 75% less power! Though the simplistic practice of replacing conventional resource intensive lighting gear one-for-one with more efficient options represents a great stride in reducing environmental impacts it still leaves considerable opportunities unharvested. In fact, such measures are most commonly “tacked” onto a home rather than integrated into the architecture, and we routinely identify the potential to significantly further reduce energy use.

Green Lights

Providing true environmentally responsive and sensitive lighting with minimum impact on the planet locally and globally requires a holistic and systematic approach. It involves:

- the siting, massing, and glazing of a home to maximize daylighting
- the shaping and finishing of interior spaces to facilitate lighting distribution
- the layering, zoning, and control of electric lighting to provide ambient, accent, and task lighting where and when required based on the occupants’ lifestyle, aesthetic desires, and visual needs
- the selection of the most efficient light sources, luminaires, and controls practical for each application.

