

Energy Performance Labels (EPLs)

1. Background

- Arlington's energy performance labels (EPLs) will report actual energy use and the buildings carbon footprint as compared to national averages and the County's long term energy targets.
- These EPLs expand on the County's efforts to provide greater transparency regarding energy use in its own facilities, an effort than began with its energy report cards provided online. These labels are also intended to provide greater visibility and engage the public, thereby helping to promote increased energy literacy.
- Voluntary energy performance labeling is one of the 18 recommendations in the draft Community Energy Plan accepted by the County Board in May 2011.
- Once these pilot labels are debuted in October 2011, showcasing 2010 data, we will continue to welcome public feedback and suggestions through the Community Energy Plan website- www.arlingtonva.us/energyplan.

2. Why is Arlington pursuing energy performance labeling and developing its own label?

- Arlington is developing its own label because regional and national templates are not yet available that would allow the County to show detailed information for the building categories that characterize its building stock. For example, Arlington has numerous libraries, community centers, and fire stations which cannot receive an ENERGY STAR rating due to their building types.
- While we're confident that regional and national ratings will become available in the future, we want to begin the process of energy performance labeling in the meantime.
- While some available labeling templates allow for rating on an A-D or color gradient basis, we want performance labels to illustrate more data transparency (i.e., actual consumption), as we feel this is more tangible to the public, and avoids the need to 'grade' a building and for people to interpret this grade. An Arlington-specific label would also allow us to compare each building to other *Arlington* buildings within that building category (e.g., how one Arlington library compares to other libraries in Arlington).
- Arlington has sought feedback from the Northern Virginia Regional Commission, EPA, ASHRAE, and DOE both to keep these agencies involved in and aware of the effort, as well as to ensure that Arlington is not duplicating efforts. It is important to note that as regional and/or national labels become available, Arlington can switch over to a regional and/or national standard.

3. When will this program begin?

- After feedback has been received from both County staff as well as community leaders involved in the process, the County will display energy performance labels in some of its buildings. Offices are an appropriate building type to begin with because national averages for offices are readily available and provide for an easy comparison.
- In mid-October, we will begin to label nine of our **office buildings** and five of our **libraries**, and this particular group of buildings should provide high visibility to the public. By the middle of the year 2012 Arlington County will have labeled all of its 46 facilities.

- In Spring/Summer 2012, offices and libraries will receive updated labels reflecting 2011 data, and labels will also be rolled out for **community centers, healthcare facility, residential programs & clinics, and public safety facilities.**
- These labels will be displayed on 11 x 8.5” paper in plastic document holders adhered to a wall in the entrance of each facility. The low cost and impermanence of these displays will allow for future flexibility regarding the styling of the label. We are currently working with our Facilities Design and Construction staff to select locations in each of our facilities for label displays.

4. What kind of information will be shown on these labels?

- In addition to displaying basic building facts, the label will include annual **electricity and natural gas** use information and annual **carbon footprint.**
- The label will also include two sets of numbers, 1) one set illustrating the building’s **site energy use intensity** (EUI) and how this compares to both Arlington and U.S. averages for this building category and how it compares to the Community Energy Plan’s energy efficiency target, and 2) another set illustrating the building’s **source EUI, or carbon footprint** and how this compares to both Arlington and U.S. averages for this building category.
- There is some debate as to whether **site** or **source** EUI better communicates a building’s energy consumption. *Site* EUI refers to the amount of energy consumed at the site, as measured by electric and gas meters, divided by the gross square footage of the building. *Site* EUI better describes the actual energy consumption of the building itself and is more relatable to someone’s utility bill. *Source* EUI takes into account the fuels consumed in the generation, transmission, and distribution of electricity, as well as the energy losses from storing, distributing, and dispensing natural gas. Including the carbon footprint data for each building will provide the inherent cleanliness of each fuel type.
- *Carbon footprint* is defined as the quantity of carbon (CO₂e) emitted per unit of energy per square foot, which is based on established emissions factors for electricity and natural gas. To normalize for building size, the carbon footprint for each building is calculated based on the amount of electricity and natural gas consumed, multiplied by the respective emissions factor for each fuel, divided by the gross square footage of the building.
- The bottom section of the label will include **Quick Response (QR) code** so that smart phone owners can easily access and view additional information about the building on the spot. For instance, the QR code will bring up the County’s **building energy report card site**, which contains more comprehensive data for all facilities going back to 2007, and includes additional data, e.g., information on recent and upcoming work to be performed at facilities, and the percent different from national averages (derived from ENERGY STAR’s Portfolio Manager), as well as explanations and definitions for the information included on the label.