

DWEA Briefing Paper: **What is Distributed Wind?**

Distributed Generation

Distributed generation (DG) refers to electrical power generation that occurs close to where the power is consumed, independently of the type of power-generating technology. Electricity that is primarily used on site by the system owner is often called “inside the fence” or “behind the meter” generation.

DG systems are typically small by comparison to centralized power plants but they carry significant benefits including reduced energy loss during transmission and reduced load on utility transmission and distribution lines. In recent years, distributed generation has also become a viable energy alternative regarding national security concerns.

Categories & Size

When addressing wind electric systems, there are three general categories to consider -- small wind, mid-size or community wind and utility scale wind. Small and mid-size wind turbines fall under the distributed wind category, while utility scale turbines typically do not. Small wind is generally defined as any wind turbine system having a nameplate capacity up to and including 100 kW; mid-size (community) wind systems tend to have nameplate capacity between 100kW and 1.5 MW (although this category tends to be defined more by application than nameplate capacity, since it can fit into both the distributed and utility categories); and systems above about 1MW are generally thought of as utility scale.

Clusters

Multiple wind turbines are often installed together into “clusters” for small wind and “farms” for utility scale projects. A cluster of smaller turbines will generally still be regarded as small scale, while one or two multi-MW turbine is still considered mid-sized or “community wind”.

Ownership

The ownership structure may also affect the categorization of a wind turbine project. Small and mid-sized systems are typically owned by a local entity: for example-an individual or family, a school district, a farm, a local business, a municipality, or a tribe, all of whom use most of the electricity on site. Large wind systems and wind farms are generally owned by outside professionals, such as energy investors or wind farm developers, and the electricity is usually sold to a local utility. Locally owned projects contribute the most to local economic development. Outside ownership results in at least some portion of the economic benefit of an installation being diverted from the local community.

DWEA’s Focus

DWEA was formed specifically to support the needs of small- to mid-scale wind with a significant element of local ownership. Strictly speaking, “distributed wind” refers to any DG facility consisting of wind turbines. The phrase “small and community wind” is often used to describe this focus.

The primary mission of the Distributed Wind Energy Association is to promote and foster all aspects of the American distributed wind energy industry, specifically focusing on the needs of small and mid-scale wind turbines used at homes, farms, businesses, and public facilities to offset all or a portion of on-site energy consumption.