

# The small grow strong

According to an AWEA survey, US manufacturers accounted for nearly 50 % of global small wind sales in 2008. Particularly with an uncapped ITC, the country appears prepared to retain and improve its market share in the global industry.

**W**ith an additional 17.3 MW of installed capacity, the US market for small wind turbines grew by 78 % in 2008. This is largely attributable to increased private equity investment allowing manufacturing volumes to increase, particularly for the commercial segment of the market. The still-largest segment of the market is residential, driven by investment and manufacturing economies of scale, but also by rising residential electricity prices and a heightened public awareness. The industry projects 30-fold growth within as little as five years. Much of this estimated growth will be spurred by the new eight-year 30 % federal Investment Tax Credit passed by Congress in October 2008 and augmented in February.

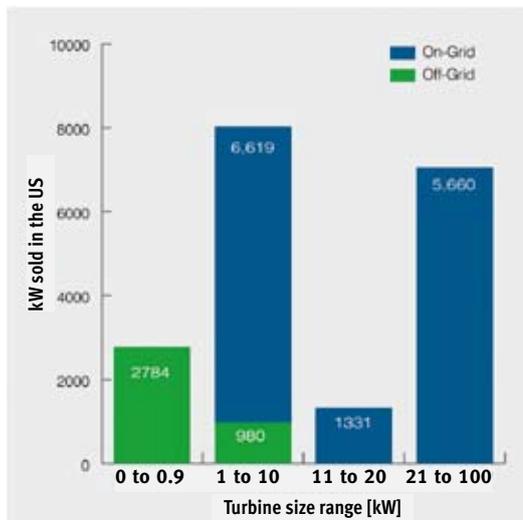
## Current market status

Based on a survey of leading manufacturers, 2008 growth was largely due to the availability of capital and inventory. Private equity investment has allowed supply to catch up to a demand. Better manufacturer capitalization has led to an increase in production volumes, sales forces, and technical support within individual companies. Leading external market factors include rising and volatile prices of conventional electricity, state incentives, consumer education. Despite record growth, the residential (1 to 10 kW) and commercial (21 to 100 kW) market segments showed an approximate 20 % downturn in late 2008 and early 2009 due to a broad economic recession.

In the US the cumulative installed small wind capacity amounts to 80 MW.

Source: Ron Stimmet

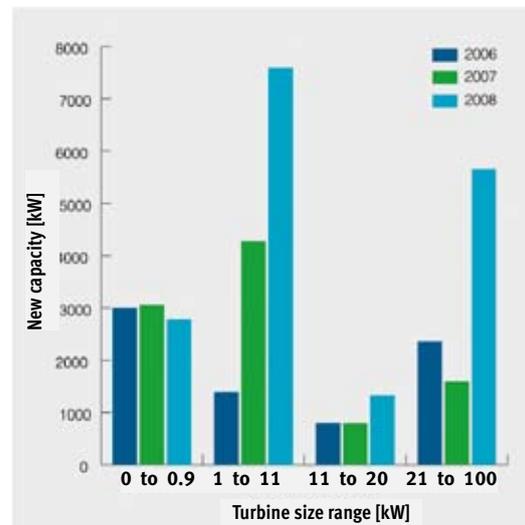
## US small wind turbine market 2008



The market has become dominated by grid-connected units and will likely continue in this trend as these larger systems become more affordable and available.

Source: AWEA

## US market segment growth



The residential and upper-commercial market segments experienced the sharpest growth in 2008.

Source: AWEA

# First Small and Community Wind Conference & Exhibition

As the American Wind Energy Association (AWEA) gears up for their first Small and Community Wind Conference & Exhibition at the Cobo Center from the 3<sup>rd</sup> to the 5<sup>th</sup> of November in Detroit, Michigan, Mike Swinburne, AWEA's Exhibition Sales & Services Coordinator took some time to talk about this brand new AWEA event.

**S&WE:** Why is AWEA doing a conference covering the subject of „small wind“?

**Mark Swinburne:** Small and community wind is being held as our first topic-specific conference & exhibition as we've never discussed these two topics in detail at previous events – at most they've each had a handful of conference sessions, but no dedicated conference tracks. With the Small and Community Wind Conference & Exhibition, both the small wind and community wind industries can be presented in more detail.

**S&WE:** What distinguishes this market segment?

**Swinburne:** When most people think of wind energy, they think of very large wind farms, and not turbines to power a specific community, or an individual's house or farm. Small wind is distinguished by wind turbines no larger than 100 kW, and is a term used to define wind energy for use by individuals to power anything from electronic equipment on a personal boat to powering an entire home or farm. These small turbines may be connected to the electrical grid, so that unused power

produced can be sold to the local utility. This is called "net metering". And the extra electricity produced may also be stored in batteries to be used as needed. Community wind is a definition that encompasses wind turbines in the 100 kW to 1 MW range and also includes wind farms in the 5 MW to 20 MW range that are controlled in part by local municipalities, townships, etc.

**S&WE:** How is the exhibition planned; what are its key aspects and highlights?

**Swinburne:** The exhibition is planned to attract a wide variety of both industry professionals and general public. We're going to allow the public to access the exhibit hall during the afternoons of November 3<sup>rd</sup> and 4<sup>th</sup>. Also a small presentation area where exhibiting companies can sign up to present for a few minutes on their products and services as well as brief presentations in the exhibit hall during the public hours. Highlights are confirmed exhibitors such as Urban Green Energy and Earth Turbines, Suzlon and

Mike Swinburne, Exhibition Sales & Services Coordinator, AWEA

Photo: AWEA

Aeronautica Windpower, project developers like National Wind and Balance 4 Earth, and companies working with construction and the wind energy supply chain.

**S&WE:** How many exhibitors and visitors does the AWEA expect to attend?

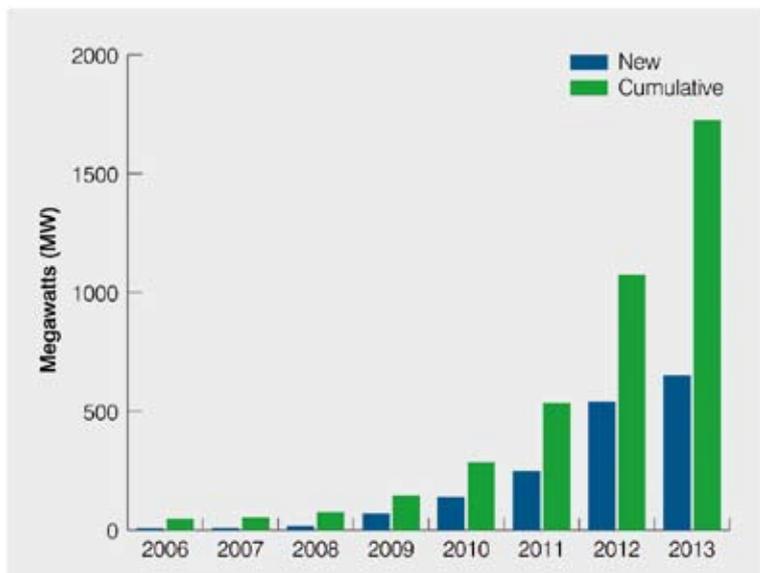
**Swinburne:** We're anticipating over 50 exhibitors, and over 1,000 business attendees.

**S&WE:** Where will the next event take place?

**Swinburne:** It will be an annual event and the location will move around to different cities, as "Windpower" does. We have not yet selected a city to hold this event in 2010.

The interview was conducted by Annette Nuesslein from GADORE (German-American Dialog on Renewable Energy).

### US market growth projections



Manufacturers predict a 30-fold increase in the US market in as little as five years.

Source: AWEA

Global sales commercial-sector customers have found difficulty securing financing in this market; finding Power Purchase Agreements (PPA) to be more attractive. Two commercial PPAs enable businesses, schools, governments, and utilities to consume renewable electricity while avoiding high capital costs and risks associated with owning the generating equipment. The 2005 Energy Policy Act provided a far more generous incentive (30 % of the total installed system cost) for commercial applications than for residential, which was limited to US\$ 2,000. Small wind and solar now enjoy a long-term, uncapped 30 % tax credit for both commercial and residential applications.

### New federal incentives

On October 3<sup>rd</sup>, 2008 Congress passed the Emergency Economic Stabilization Act of 2008, H.R. 1424, that includes a new eight-year, 30 % federal-level Investment Tax Credit (ITC) to help consumers purchase qualified small wind systems with rated capacities of 100 kW and less. The amount of this credit was stringently capped, however, until the passage of The American Recovery and Reinvestment Act of 2009, H.R. 1, on February 17<sup>th</sup>, 2009 which removed the cost caps. A 30 % ITC is now available for small wind turbine consumers through December 31, 2016.

*(For a list of other incentives benefitting small wind contained in this legislation, see [www.awea.org/legislative/pdf/AWEA\\_Summary\\_ARRA\\_Provisions\\_of\\_Interest\\_to\\_Small\\_Wind.pdf](http://www.awea.org/legislative/pdf/AWEA_Summary_ARRA_Provisions_of_Interest_to_Small_Wind.pdf). See also the Database of State Incentives for Renewables and Efficiency website at <http://dsireusa.org>.)*

### Selection of Small Wind Turbine Equipment Providers

Manufacturer	Models (rated capacity)
Abundant Renewable Energy <a href="http://www.abundantre.com">www.abundantre.com</a>	ARE110 (2.5 kW), ARE442 (10 kW)
Aerostar <a href="http://www.aerostarwind.com">www.aerostarwind.com</a>	Aerostar 6 Meter (10 kW)
AeroVironment <a href="http://www.avinc.com">www.avinc.com</a>	AVX-1000 (1 kW)
Bergey Windpower Co. <a href="http://www.bergey.com">www.bergey.com</a>	BWC XL.1 (1 kW), BWC EXEL (10 kW)
Energy Maintenance Service <a href="http://www.energymys.com">www.energymys.com</a>	E15 (35 kW or 65 kW)
Entegrity Wind Systems <a href="http://www.entegritywind.com">www.entegritywind.com</a>	EW50 (50 kW)
Gaia-Wind Ltd. <a href="http://www.gaia-wind.com">www.gaia-wind.com</a>	11 kW
Mariah Power <a href="http://www.mariahpower.com">www.mariahpower.com</a>	Windspire (1.2 kW)
Northern Power <a href="http://www.northernpower.com">www.northernpower.com</a>	NPS 100 (100 kW)
Proven Energy, Ltd. <a href="http://www.provenenergy.co.uk">www.provenenergy.co.uk</a>	Proven 2.5 (2.5 kW), Proven 6 (6 kW), Proven 15 (15 kW)
ReDriven Power, Inc. <a href="http://www.redriven.net">www.redriven.net</a>	2 kW, 5 kW, 10 kW, 20 kW
Southwest Windpower Co. <a href="http://www.windenergy.com">www.windenergy.com</a>	AIR-X (400 W), Whisper 200 (1 kW), Whisper 500 (3 kW), Skystream 3.7 (1.8 kW)
Ventura Energy, Inc. <a href="http://www.venturaenergy.com">www.venturaenergy.com</a>	VT10 (10 kW)
Wind Energy Solutions, Canada <a href="http://www.windenergysolutions.ca">www.windenergysolutions.ca</a>	WES 5 Tulipo (rotor diameter 5 m, 2.5 kW), WES 18 (rotor diameter 18 m, 80 kW), WES 30 (rotor diameter 30 m, 250 kW)
Wind Turbine Industries Corp. <a href="http://www.windturbine.net">www.windturbine.net</a>	23-10 Jacobs (10 kW), 31-20 Jacobs (20 kW)



ARE110 manufactured by Abundant Renewable Energy with a capacity of 2.5 kW.

Photo: Abundant Renewable Energy

List of US manufacturers and suppliers of wind turbines for use in residential, farm, and commercial/industrial applications compiled by AWEA.

## Installer and equipment certification

Programmes are nearing completion to certify small wind turbine equipment and those who install them by the Small Wind Certification Council (SWCC) and the North American Board of Certified Energy Practitioners (NABCEP), respectively. While both programmes will be voluntary, market forces are likely to institutionalize them throughout the industry. A number of states have indicated that they plan to make certification a requirement to interconnect to the electricity grid, obtain a zoning permit, and/or receive public incentive funds.

## Federal renewable electricity standard

Legislation is expected to be considered again in 2009 that would create a nation-wide requirement for major utilities to derive a certain percentage of their generation from renewable sources by a certain date. Called a renewable electricity standard or RES, this type of policy currently exists in 28 states and over 35 countries and has created a sustained market for renewables in these areas. Depending on how the policy is structured, an RES may provide an incentive for utilities to encourage smallscale, customer-sited renewables like small wind turbines to be added to the generation mix.

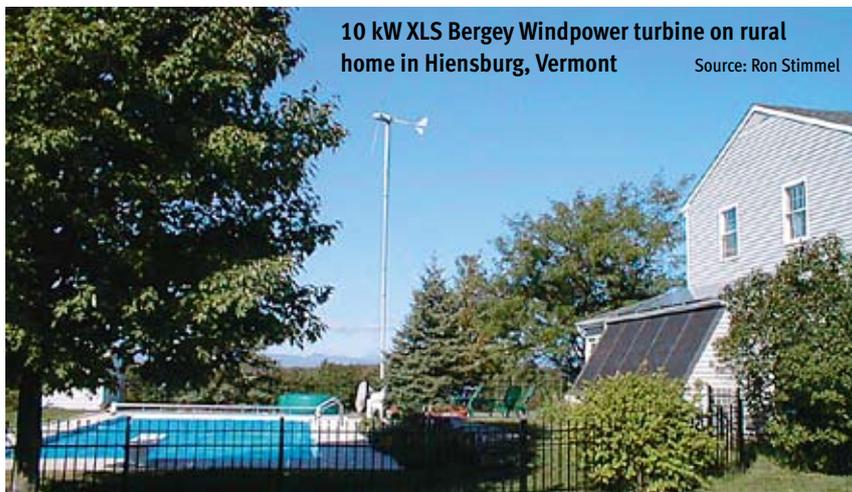
Ron Stimmel

### US sales compared to global sales

2008 US sales	2008 global sales
17.3 MW	38.7 MW
78 % growth over 2007	53 % growth over 2007
10,500 units	19,000 units
US\$ 77 million in sales	US\$ 156 million in sales

The US continues to command roughly half the global market share and is home to one-third of the 219 identified worldwide manufacturers.

Source: AWEA



10 kW XLS Bergye Windpower turbine on rural home in Hiensburg, Vermont

Source: Ron Stimmel

Ron Stimmel is AWEA's Small-Wind Advocate and author of the 2009 AWEA Small Wind Turbine Global Market Study.

**Further information:**  
[www.smallandcommunitywindexpo.org](http://www.smallandcommunitywindexpo.org)  
[www.awea.org](http://www.awea.org)



# Small and Community Wind Conference & Exhibition

The AWEA Small & Community Wind Conference & Exhibition will bring together industry leaders, project developers, economic development groups, municipalities, and land owners to formulate and enact growth strategies for small and mid-sized wind applications. Capitalize on wind technology by learning the latest information on key topics, such as national renewable energy legislation, technology costs, zoning requirements, utility interconnection, tax revenues and investment opportunities.

November 3 – 5, 2009 ▶ Cobo Center, Detroit, Michigan

For homes, farms, ranches, and businesses, wind energy creates opportunities to make money, save money and be more energy independent.

[www.smallandcommunitywindexpo.org](http://www.smallandcommunitywindexpo.org)

