Sheer Wind Inc Patent Portfolio Report

Heritage Global Patents & Trademarks has received Bankruptcy Court approval to bring the Intellectual Property of Sheer Wind Inc. to market via a Sealed-Bid Auction. These patents will be sold to the highest bidder. The Bid Submission Deadline will be May 16, 2018.

Bankruptcy Case # 17-43913-MER
John R. Stoebner, Chapter 7 Trustee
US Bankruptcy Court; District of Minnesota

This report gives an overview of Sheer Wind's granted patents and patent applications worldwide. Information provided herein is believed to be from reliable sources,however all Due Diligence shall be the sole responsibility of Bidders and must be done PRIOR to submitting a bid as there will be no opportunity to conduct Due Diligence after the award to the high bidder.

For further information regarding the SheerWind auction process please visit the www.hgpauction.com website.

Questions should be directed to:

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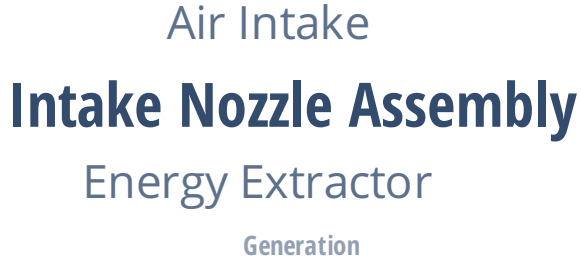
Heritage Global Patents & Trademarks
707-245-4417
dberman@hginc.com

SheerWind developed its patented INVELOX technology to increase wind speed to facilitate generation of clean energy anywhere. The technology captures and funnels wind to increase its speed and harvest energy from multiple turbines housed safely near the ground. Increasing the wind speed allows power generation in areas where local wind speeds are insufficient to make column-mounted wind turbines spin. (Source: SheerWind marketing materials)

Key Patenting Statistics for SheerWind		
Total US Grants		5
Utility		5
Design		0
Pending US Applications (Within 5 years)		6
Average Pendency		2.9 Years
Total Non-US Documents		43
Top Inventors	ALLAEI, DARYOUSH	3
Top Agents	BILLION & ARMITAGE	2
	ARMITAGE BENJAMIN C	1
	LEFFERT JAY & POLGLAZE PA	1

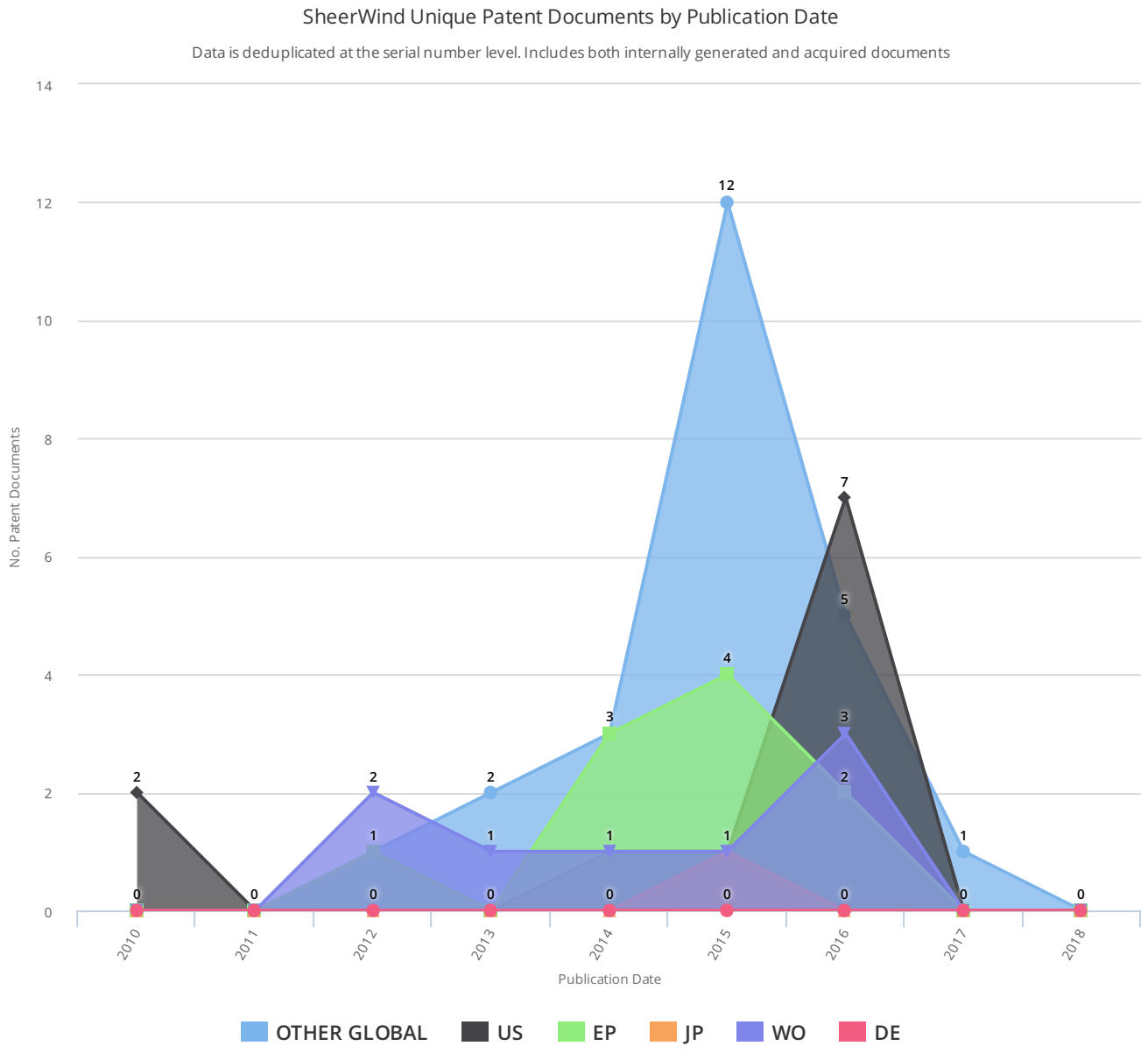


SheerWind's Global Patenting Activity by Year

Analysis includes data from all 30 jurisdictions in which SheerWind owns patents

SheerWind's published patents and applications are displayed by their publication date. The data in the analysis is deduplicated at the serial number level, which means that only one document is counted per invention per country analyzed. The "Other Global" set contains all patenting authorities not specifically broken out in the other data collections. Furthermore, the analysis includes both internally developed patents, and those that may have been acquired from other patentees.

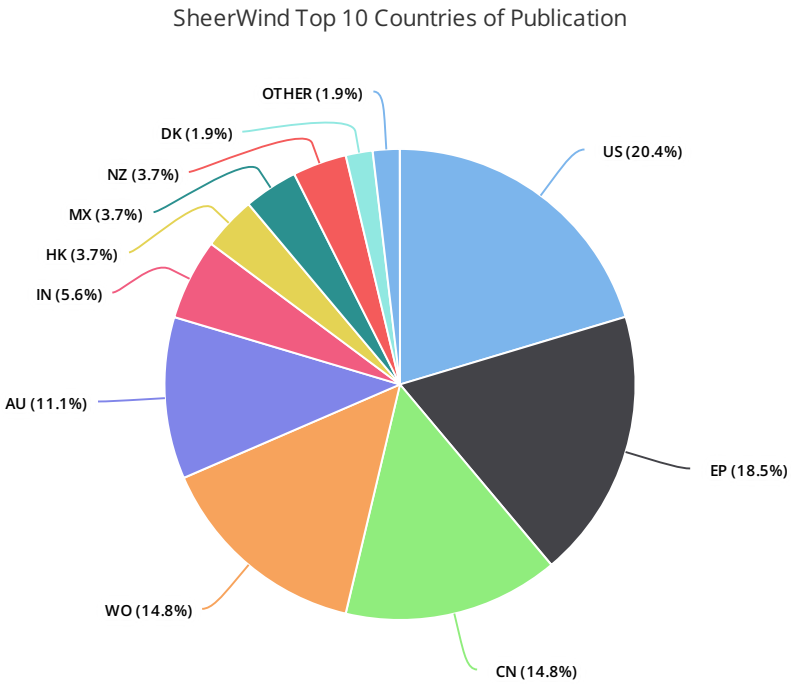
SheerWind is currently assigned to 54 patent documents published in the last 20 years. They have enjoyed a growth rate of 77.08% over the past 5 years, and peaked in 2015 with 19 global patent documents published.



Source: www.AcclaimIP.com

Breakout of SheerWind's Global Patents By Authority

Analysis Includes Deduplicated Global Patent Documents

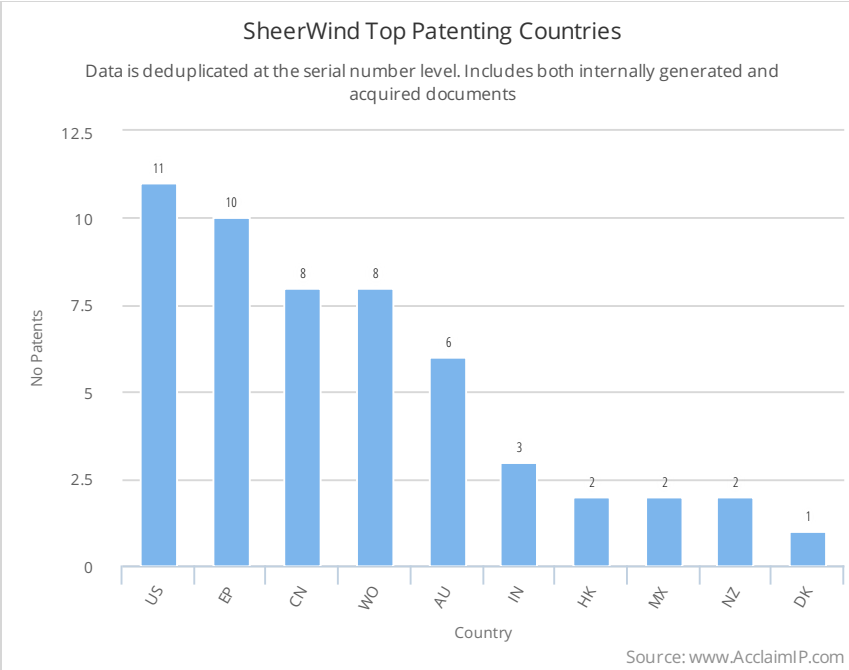


Source: www.AcclaimIP.com

SheerWind owns patents and patent applications from 11 different countries and jurisdictions. The top 10 are displayed in the pie chart above. The remaining 1 patenting jurisdictions represent just 1.9% of the entire portfolio which includes 54 deduplicated patent documents in all.

20.4% of the portfolio is made up of US patents and applications followed by 18.5% EP documents, and 14.8% deduplicated CN documents.

The chart on the right displays the raw counts of the number of global patent documents owned by SheerWind in the top 10 patenting jurisdictions.

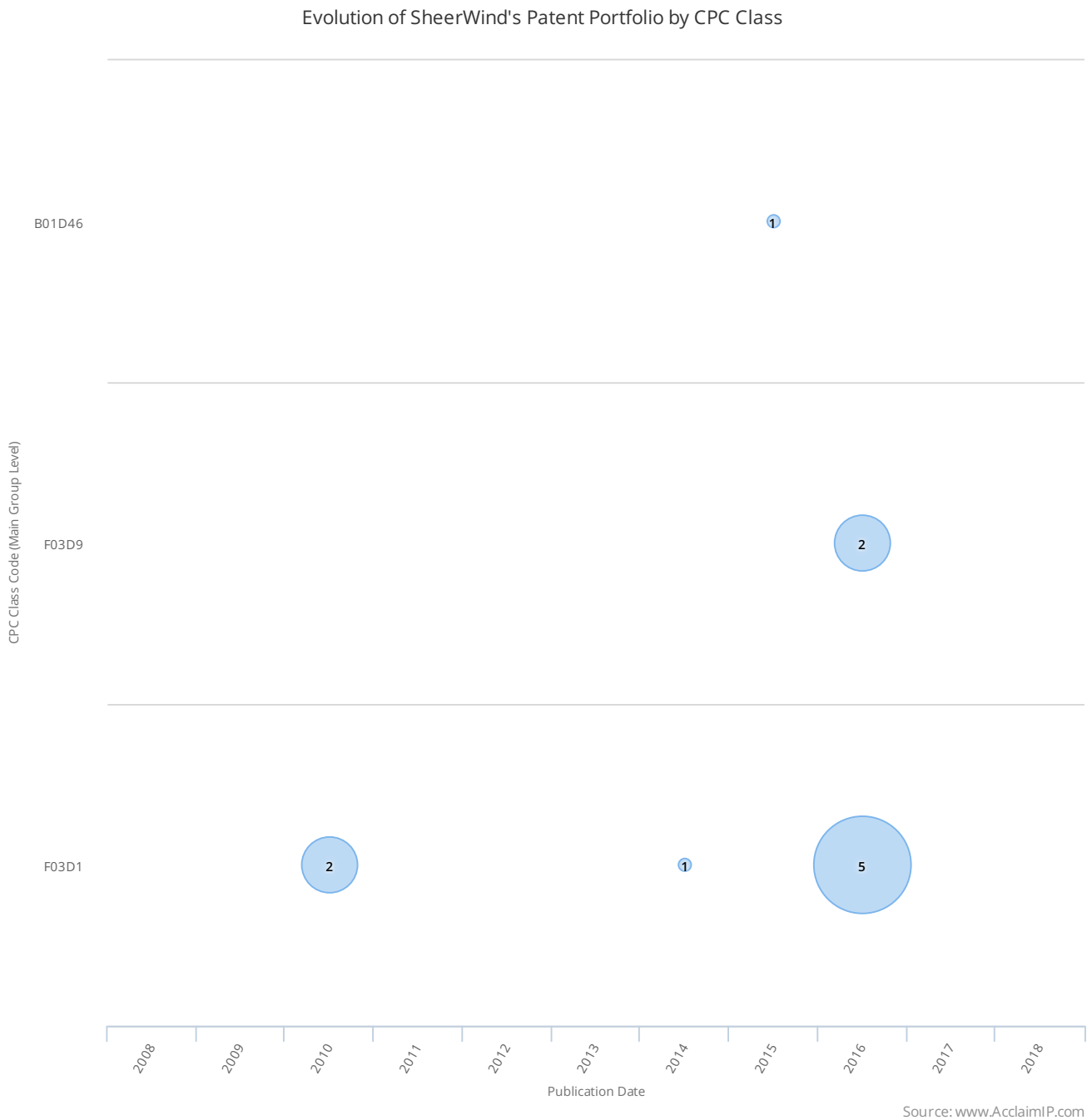


Source: www.AcclaimIP.com

Evolution of Technology Covered by SheerWind's US Portfolio

Analysis Includes Deduplicated US Patent Documents

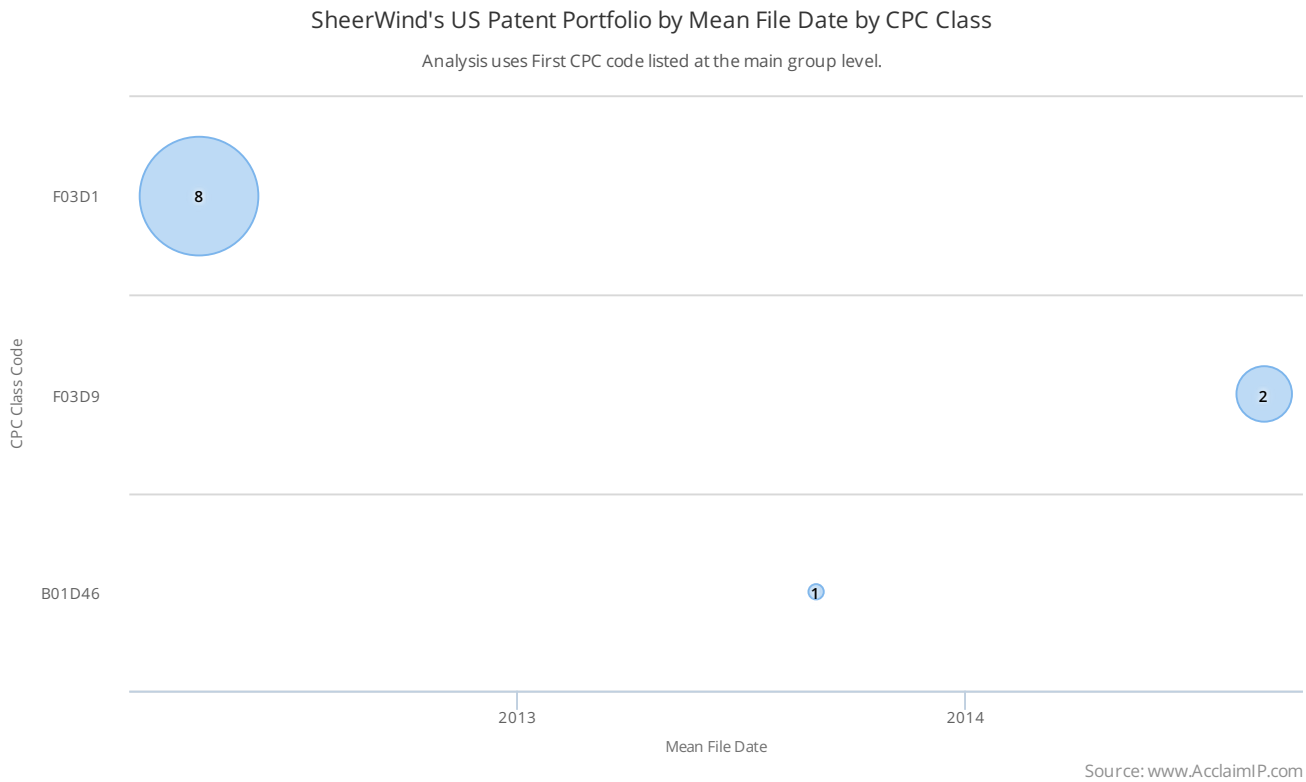
The chart below shows SheerWind's patent portfolio by class and by publication date, representing a 10-year window. The chart signals where SheerWind is currently active in patenting, and where they are no longer patenting new technology, but may have a significant number of patents. The top 20 CPC classes are represented here at the Main Group level. A supporting table of class titles is presented at the end of the section.



Source: www.AcclaimIP.com

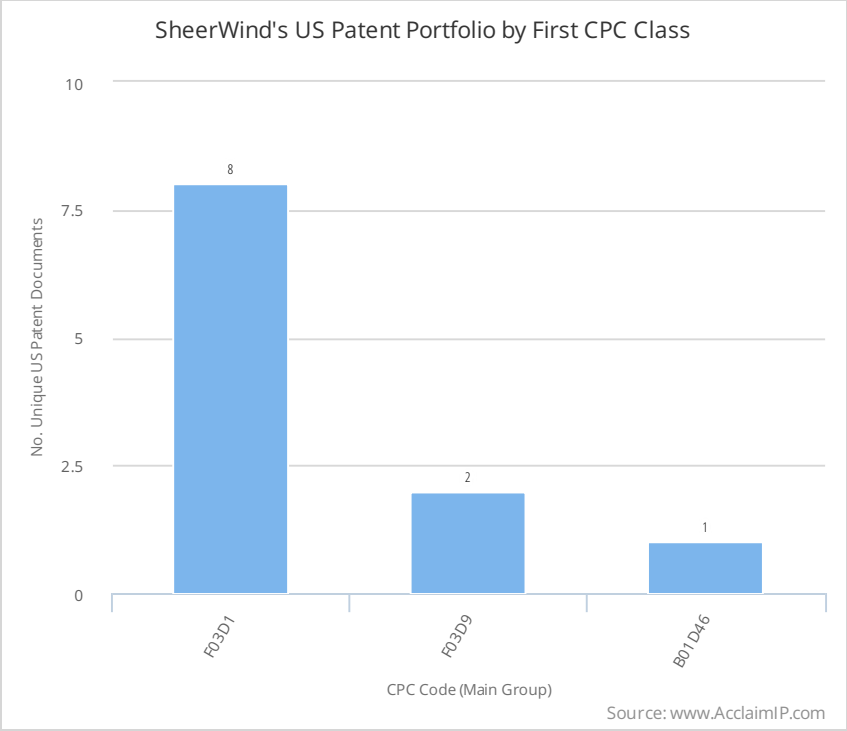
Top 20 Patent Classifications in SheerWind's US Portfolio

Analysis Includes Deduplicated Patent Families by Mean File Date



50% of SheerWind's US patent portfolio is represented by their top 20 CPC patent classifications. In this analysis, we first performed a serial deduplication on the patents, then analyzed them using the CPC classification listed first on the patent or application. In this way the portfolio is represented simply and accurately.

The chart to the right shows the same analysis as the bubble chart for easier comparison of relative quantity.



Top 20 Patent Classifications in SheerWind's US Portfolio

Analysis Includes Deduplicated US Patent Documents

The table below displays the top 20 CPC classifications at the Main Group level, including class title. The No. Patent Docs is reiterated from the previous page.

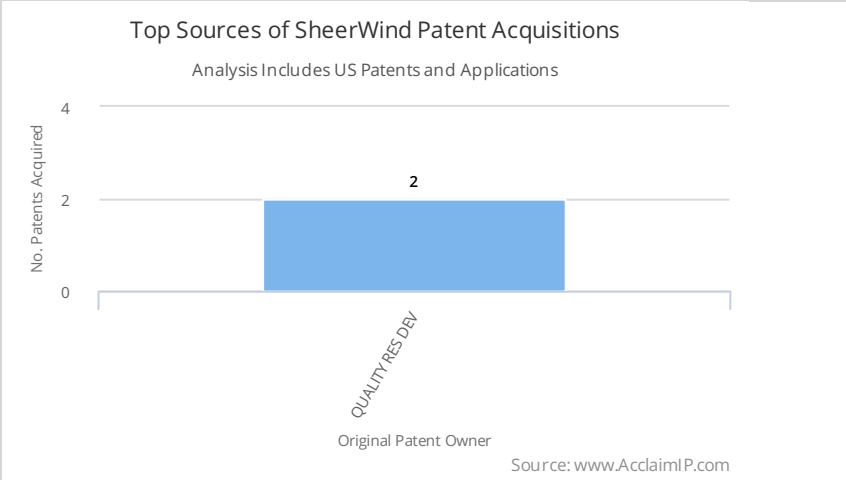
CPC Class Code	CPC Class Title	No. Patent Docs
F03D1	Wind motors with rotation axis substantially in wind direction	8
F03D9	Adaptations of wind motors for special use; Combinations of wind motors with apparatus driven thereby (aspects predominantly concerning driven apparatus)	2
B01D46	Filters i.e. particle separators or filtering processes specially modified for separating dispersed particles from gases or vapours	1

SheerWind Acquisition Analysis

Patents are regularly bought and sold just like tangible assets. The analysis below shows the number of patents that have been acquired by SheerWind. The analysis further breaks down acquisitions by source and date.

Lastly, we analyze acquired patents by technology, and present a list of competitors who have acquired similar technology.

Sources of SheerWind's Patent Acquisitions

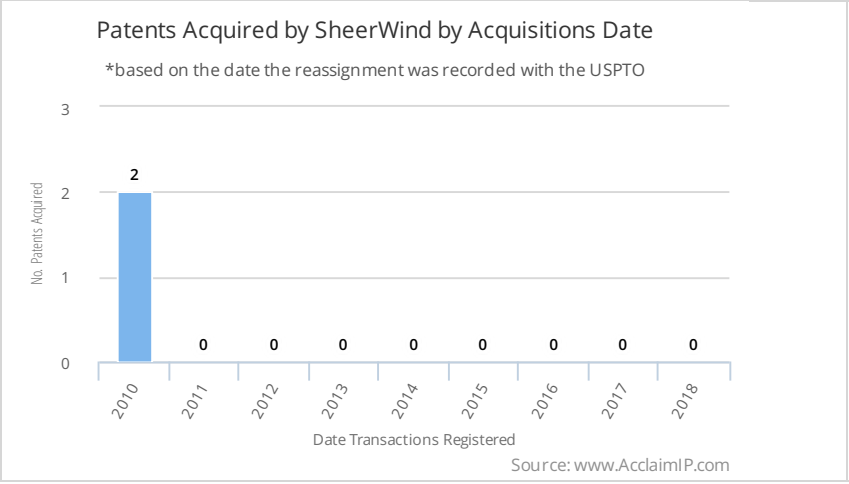


SheerWind has acquired patents from 1 different patent assignees in the past 20 years. The QUALITY RES DEV & CONSULTING INC acquisition represents 2 patents alone.

Dates of Patent Acquisitions

In 2010, acquisitions peaked with 2 recorded re-assignments, the lion's share coming from QUALITY RES DEV & CONSULTING INC.

Keep in mind that patent acquisitions are made with civil contracts, and are usually not registered with the USPTO for six months to a year after the acquisition occurred. For this reason, the most currently available data may be lagging behind.



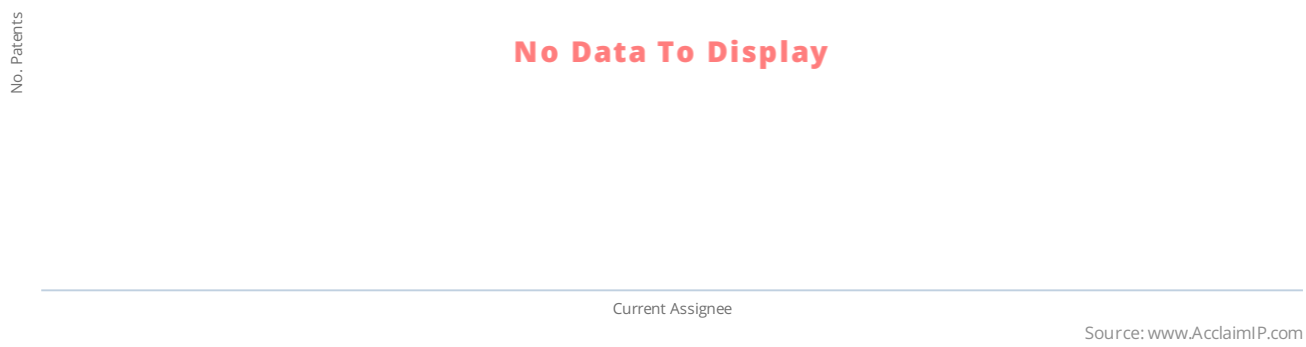
SheerWind Patent Divestitures

A sale or divestiture occurs when one entity sells a patent to another entity. Patent sales are made with civil contracts, and there is no requirement that the new patent owner register the assignment with the USPTO. As a result, some patent sales are not detectable without insider information. However, the buyer cannot assert their newfound patent rights until they register the reassignment with the USPTO, at which time we can detect if a patent sale has been executed.

By Buyer

SheerWind has not sold any patents or patent applications.

Top 20 Buyers of SheerWind's US Patents

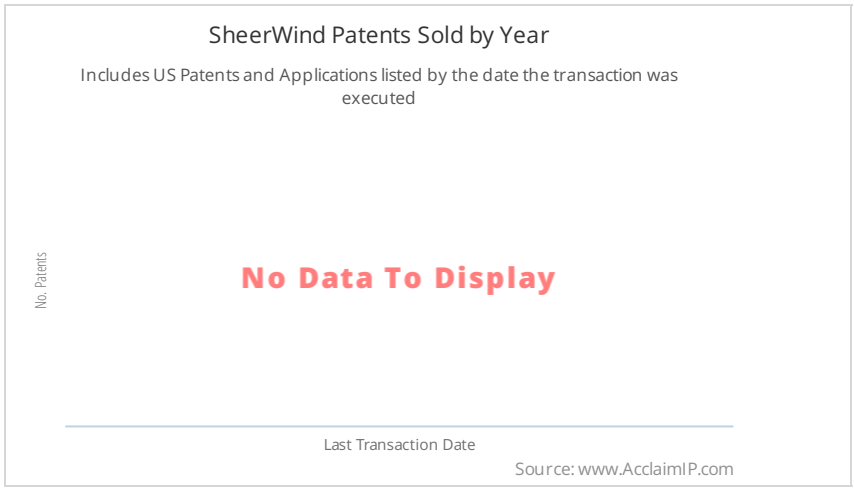


By Date

No patent sales were recorded at the USPTO by SheerWind

SheerWind Patents Sold by Year

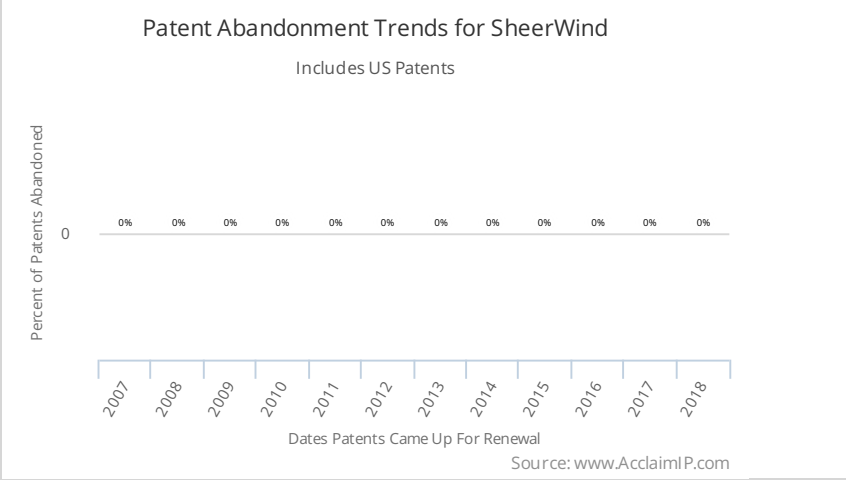
Includes US Patents and Applications listed by the date the transaction was executed



Maintenance Trends for SheerWind

Patent maintenance trends are an important measure of how a patent portfolio is managed over time, and speaks volumes about a company's patent strategy. Some companies abandon as much as 50 percent of their portfolio at each renewal tranche, while others pay maintenance fees on the entire portfolio regardless of the current benefit the portfolio conveys to the patent owner. A well-managed healthly portfolio will typically show abandonment rates of 10 to 20 percent at each renewal tranche.

Annual Maintenance Behavior

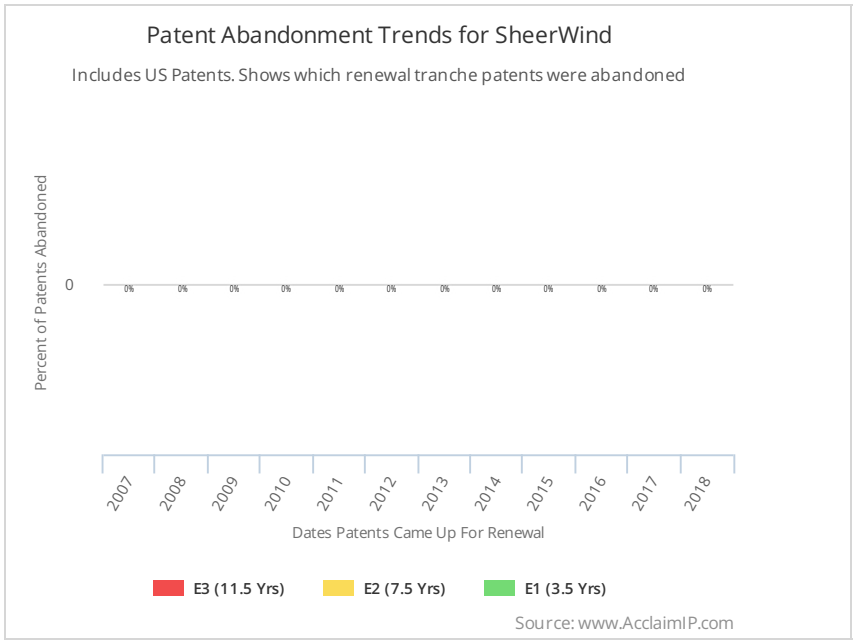


The chart to the left shows year-over-year maintenance activity. It accounts for previously abandoned patents, and shows the percentage of the patents that came up for renewal in any renewal tranche, and were subsequently abandoned.

Split by Renewal Tranche

In the US, patents must be maintained three times during their lifecycle. Maintenance payments are due at years 3.5, 7.5, and 11.5 after the patent's grant date. If no payments are received, patents expire after the six month grace period at years 4, 8 and 12 respectively.

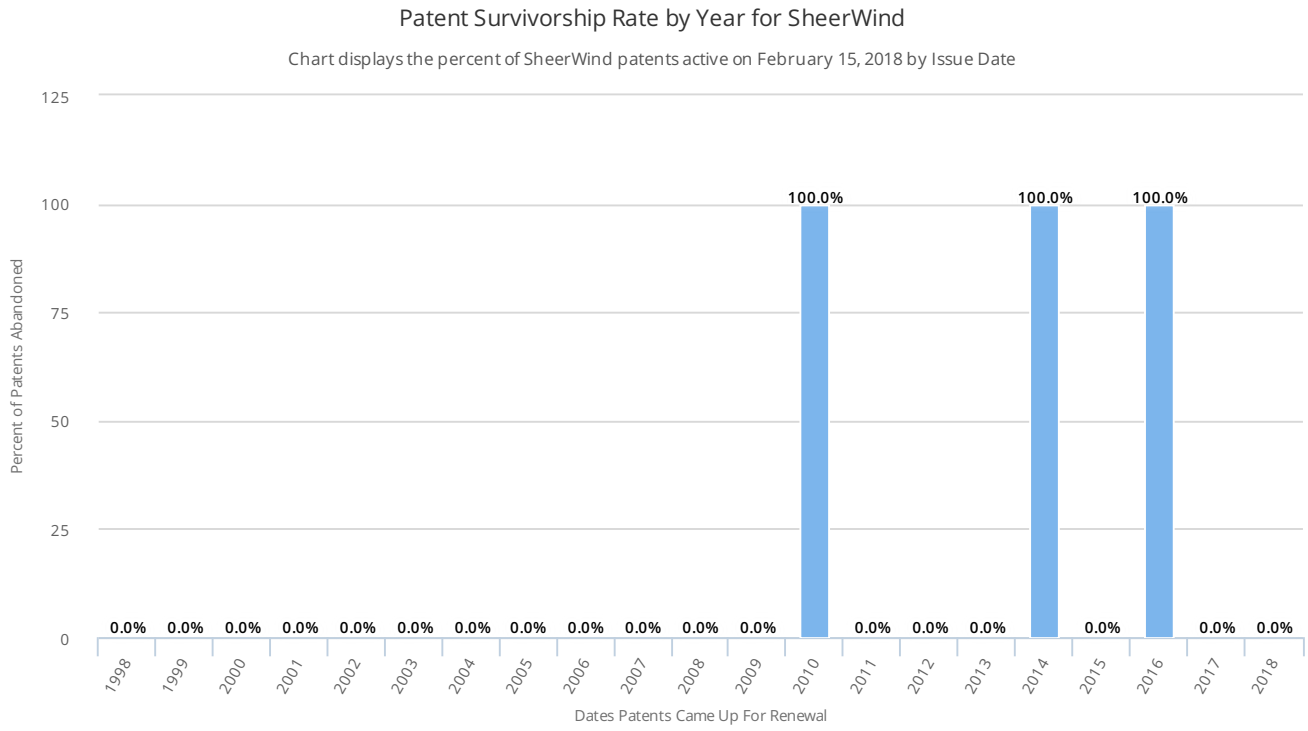
By way of comparison, approximately 20% of all renewable US patents are abandoned each year.



Survivorship Trends for SheerWind

A patent survivorship rate analysis uses the same data from the maintenance analysis to show the number of patents that were issued on a date that still survive today.

Many portfolios show a typical stair-step look, where survivorship drops at 4-year intervals at years 4, 8 and 12 when maintenance payments can no longer be made, and the patent expires for failure to pay maintenance fees.

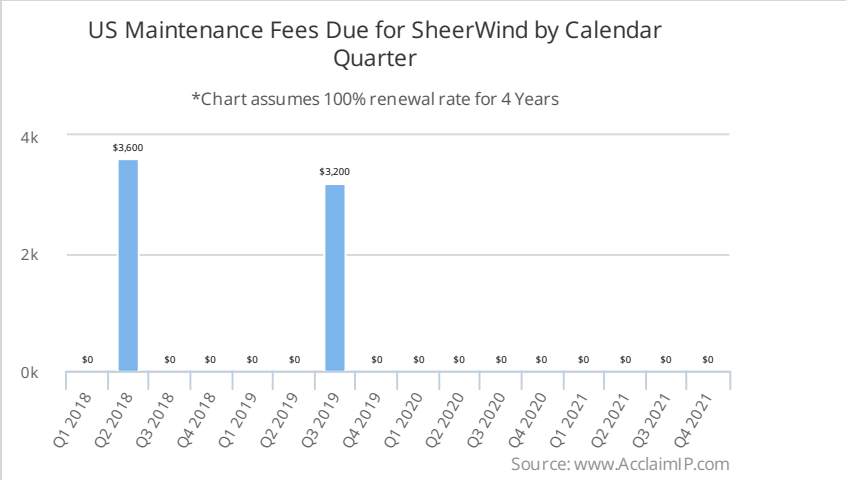


Source: www.AcclaimIP.com

Maintenance Fees Due in Future Quarters

The charts below aid in planning portfolio maintenance. They show the total dollars due for the subsequent 4 years, by quarter, if one were to fully maintain a portfolio. In the US, maintenance fees rise at each renewal tranche from $1800 to $3600 to $7400 for large entities. The estimates account for these differences, as well as the lower fees allowed for small and micro entities.

Total Future Fees



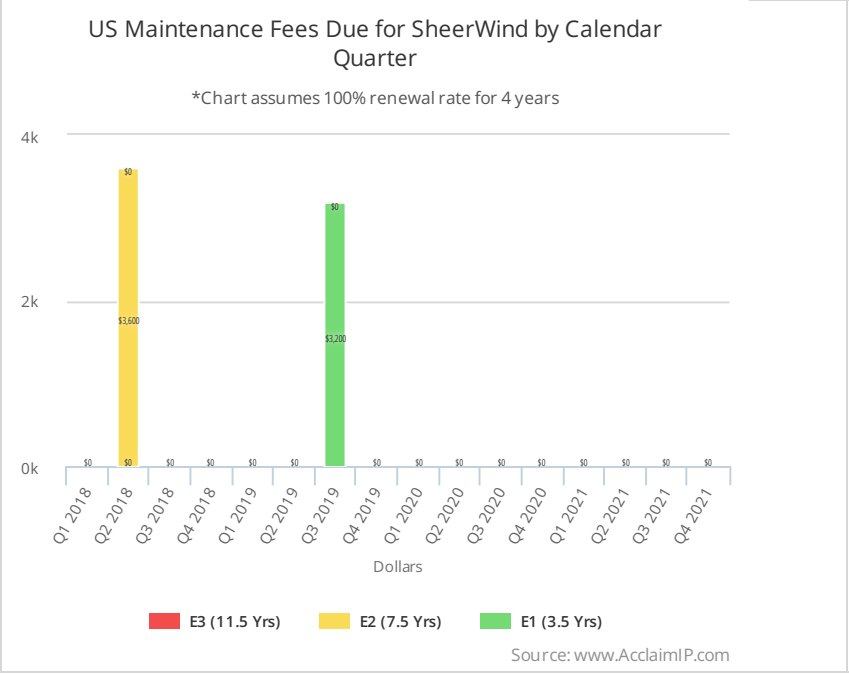
Over the next four quarters, SheerWind will pay a total of USD0 to maintain their US portfolio which highlights the need for a sound portfolio management and maintenance strategy.

In this view, in contrast to the view below, is easier to read the total fees due to fully maintain the US portfolio.

Fees Due by Renewal Tranche

Maintenance fees effectively double at each maintenance tranche.

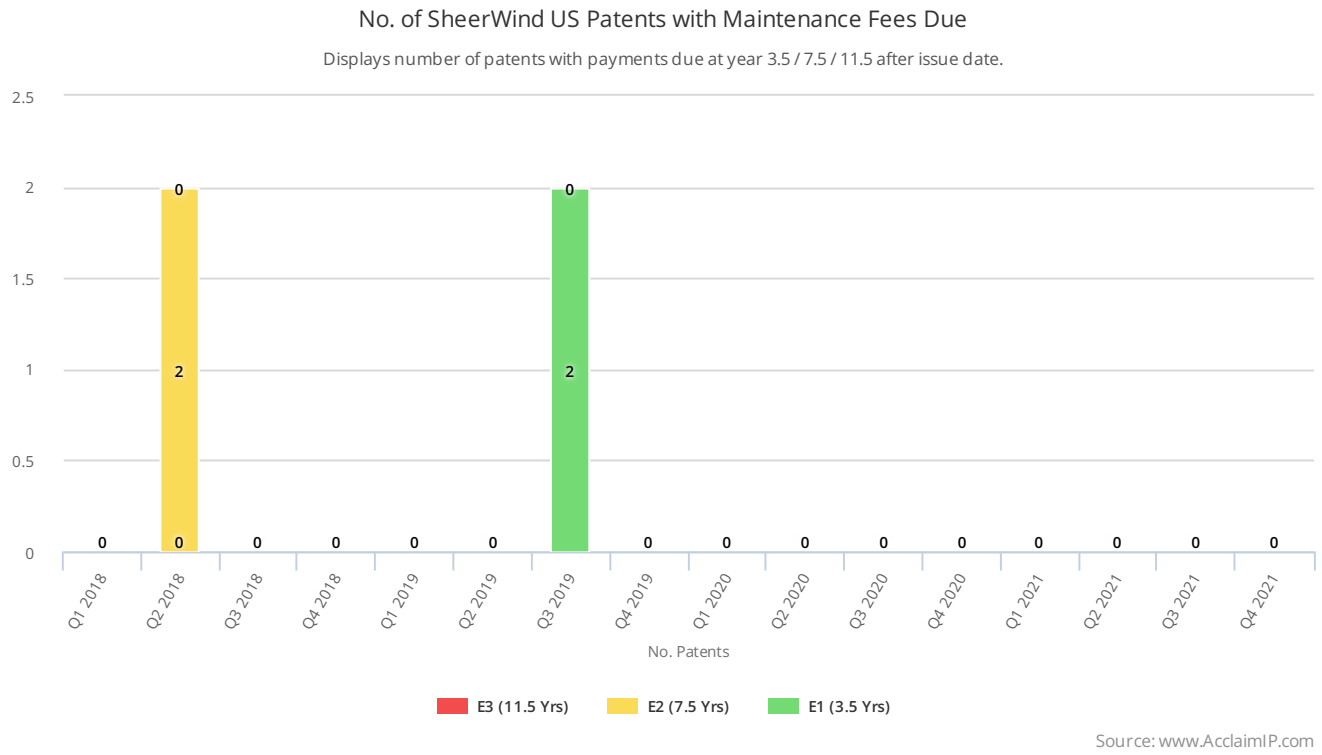
The same chart above is split into renewal tranches. Special attention should be paid to patents in the E2 and E3 renewal tranches. They have had enough time to prove their worth to the company and impact on the market, and their fees are relatively high.



Maintence Fees Due by Number of Patents

It is valuable to know precisely how many patents require maintenance decisions in each of the subsequent future quarters. Special attention should be paid to the patents in their E3 renewal period shown in red. These patents cost USD7,400 to maintain to the end of their term. Due to terminal disclaimers, some patents may have only a few months or years left in their full term. Other E3 patents may not have proved valuable, and will likely not do so in their remaining term.

Unlike the expiration charts which use the 4, 8 and 12 year expiration dates, the chart below shows you when the payments are due which is year 3.5, 7.5 and 11.5 respectively. Using maintenance due date helps you avoid unnecessary late fee penalties for renewing a patent in the six month grace period.



Source: www.AcclaimIP.com

Fees Due by Renewal Tranche

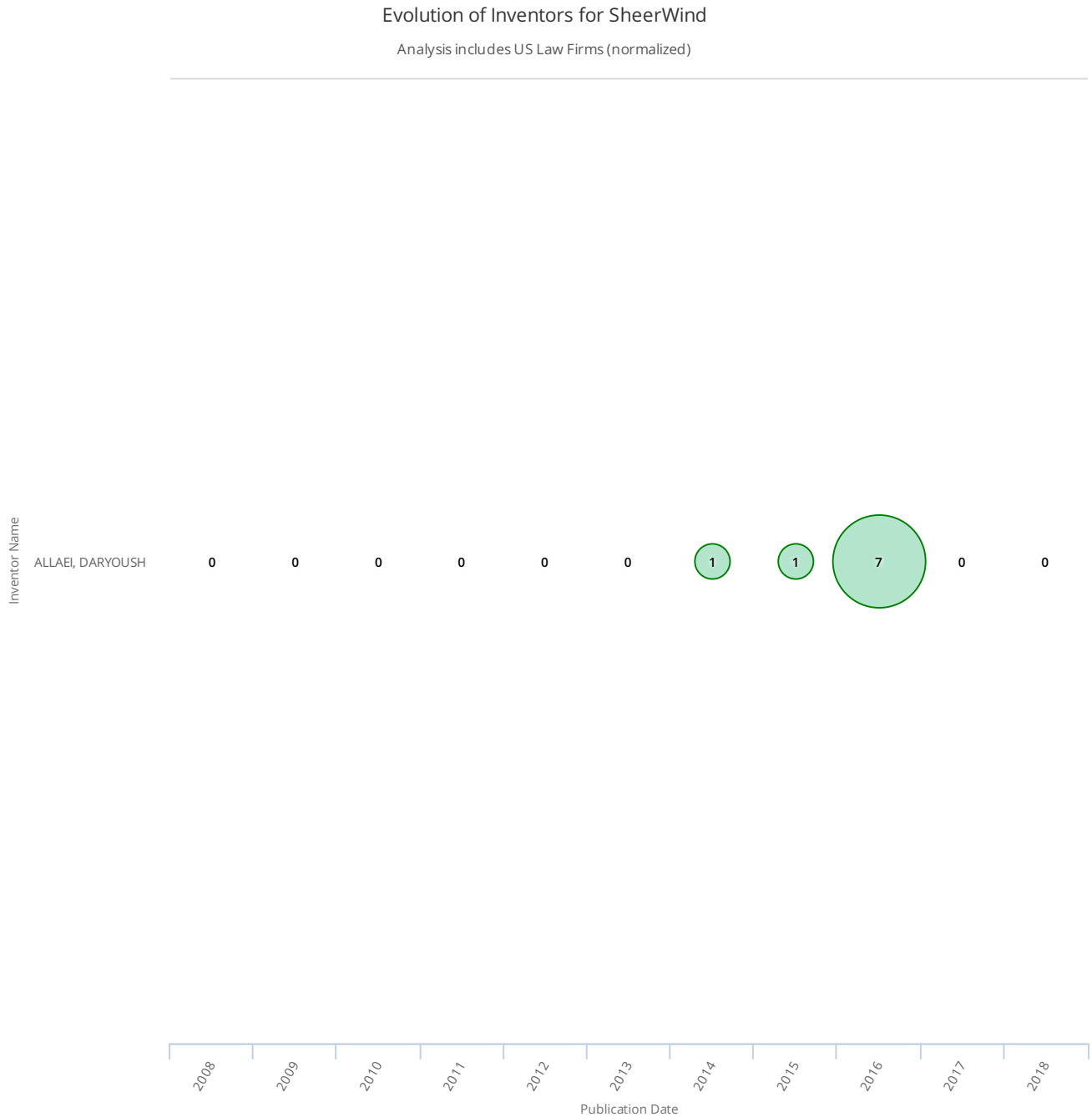
In the next three years patent maintenance fees are due to the USPTO totaling USD6,800. The table below presents the fees due in each calendar year for the next three years. The current year (2018) shows what is currently remaining assuming 100% maintenance of the portfolio and removes patents that have either had their maintenance paid or have already been abandoned.

Tranche	2018	2019	2020
E1 (3.5 Years)	USD0	USD3,200	USD0
E2 (7.5 Years)	USD3,600	USD0	USD0
E3 (11.5 Years)	USD0	USD0	USD0
Total	**USD3,600**	**USD3,200**	**USD0**

Evolution of Key Inventors in SheerWind's US Portfolio

Analysis Includes Deduplicated US Patent Documents

The chart below shows SheerWind's patent portfolio by inventor and by publication date, representing a 10-year window. The chart identifies the top 20 most prolific inventors of their organic portfolio(i.e. acquired patents are excluded from the analysis). The chart is most useful to identify key innovators and their level of current patenting activity at SheerWind.

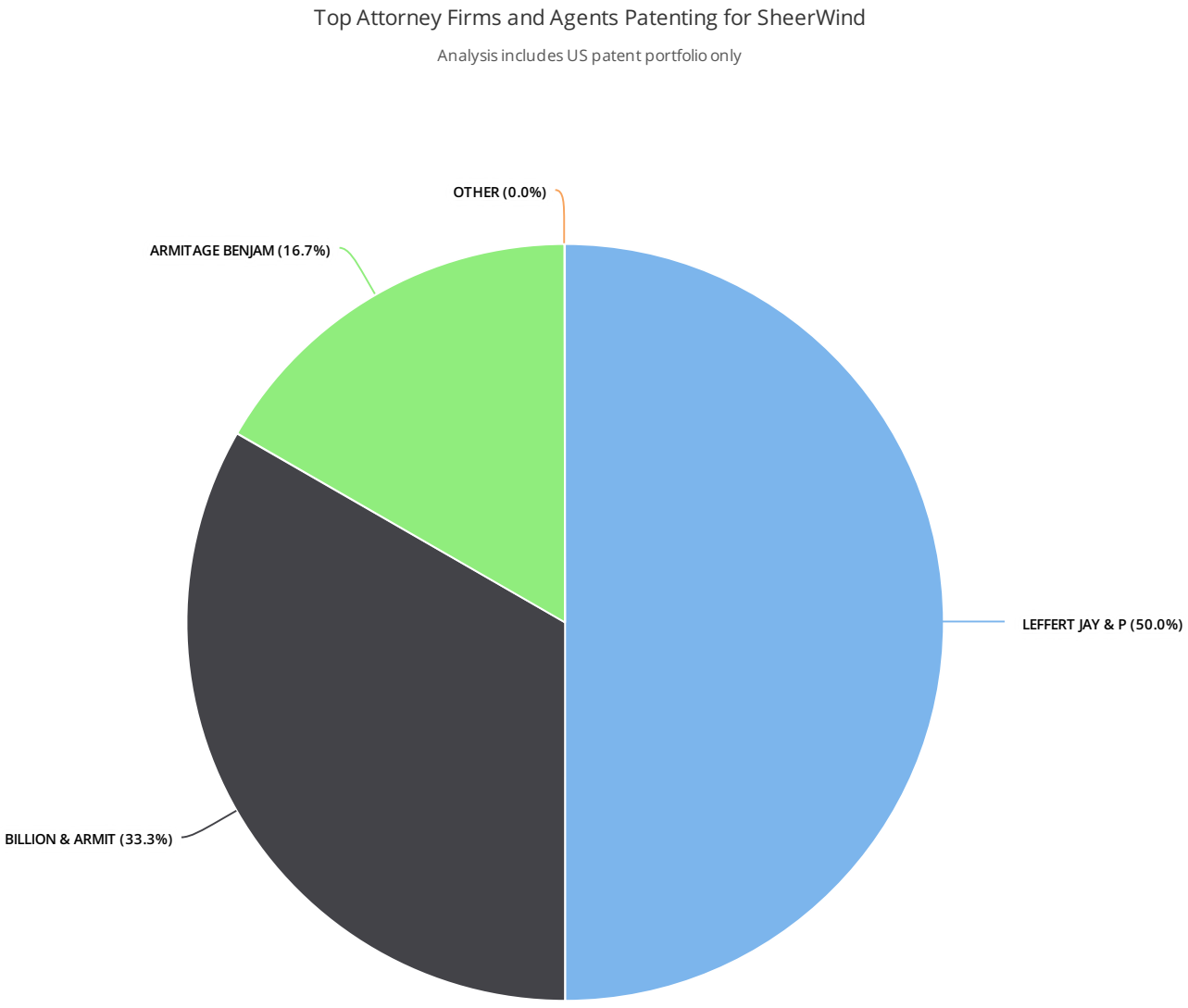


Source: www.AcclaimIP.com

US Agent Analysis: Top 25 Law Firms & Patent Agents

Limited to US Granted Patents

The pie chart below shows the top 25 attorney firms prosecuting patents for SheerWind. Only organic patents, where SheerWind is the original applicant, are represented in the chart. The chart also includes a slice labeled "Other" which includes attorney firms not represented in the top 25. Often the other slice is by far the largest slice, because large companies tend to spread out their business among many firms. The reasons vary, not the least of which is an attempt to create a conflict of interest with law firms who may represent another client in a law suit against the patent holder at some future date.

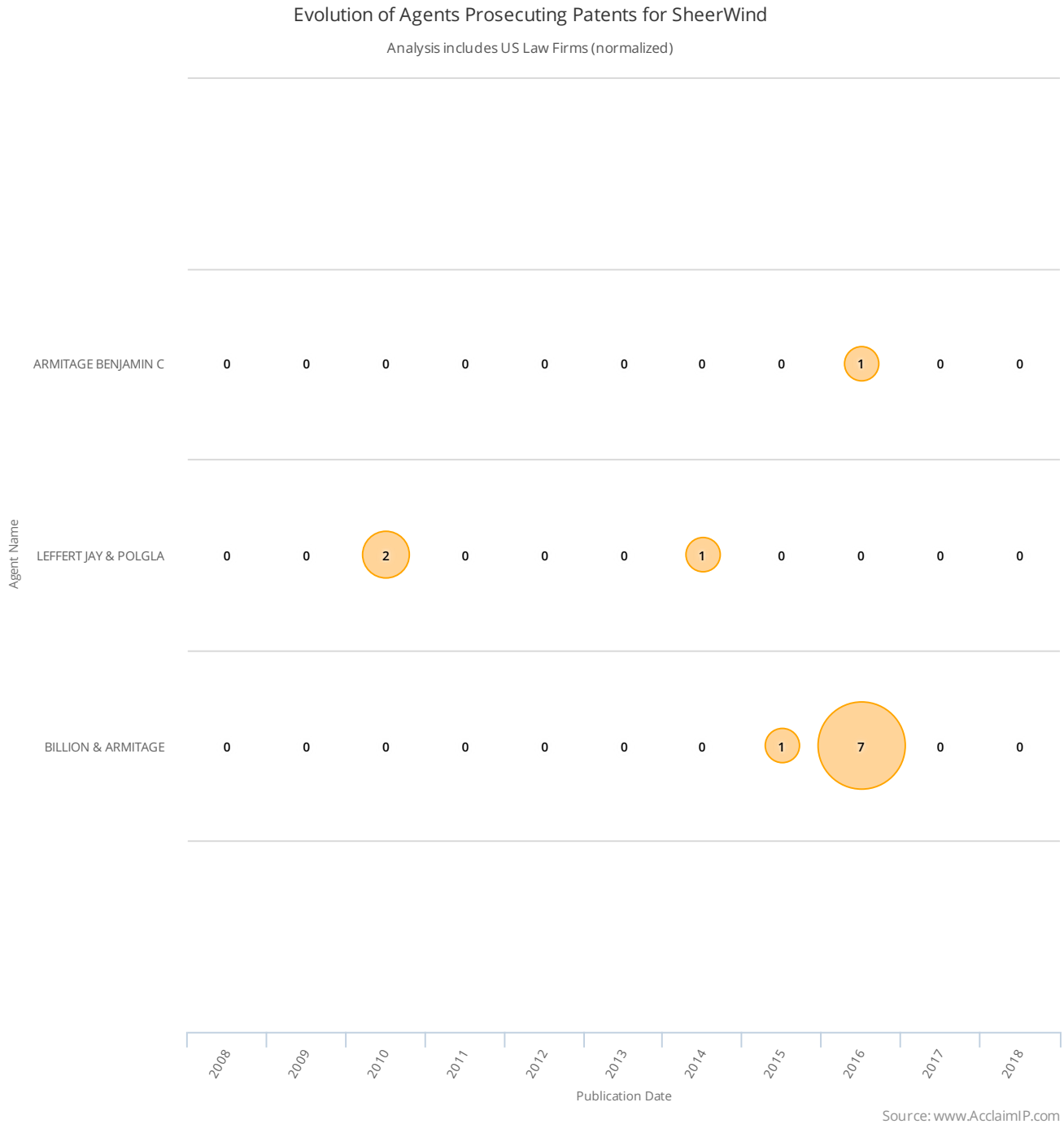


Source: www.AcclaimIP.com

Longitudinal Agent Analysis: Top 25 US Law Firms

Analysis Includes US Organic Patents

The time series analysis below shows the top 25 attorney firms who have prosecuted US patents for SheerWind. This analysis only considers organic patents where SheerWind is the original applicant, and purposely excludes acquired patents. This view of the data gives the reader a better understanding of the evolution of the top 25 patent firms SheerWind uses, and clearly shows which firms are growing and which firms are losing business at SheerWind.

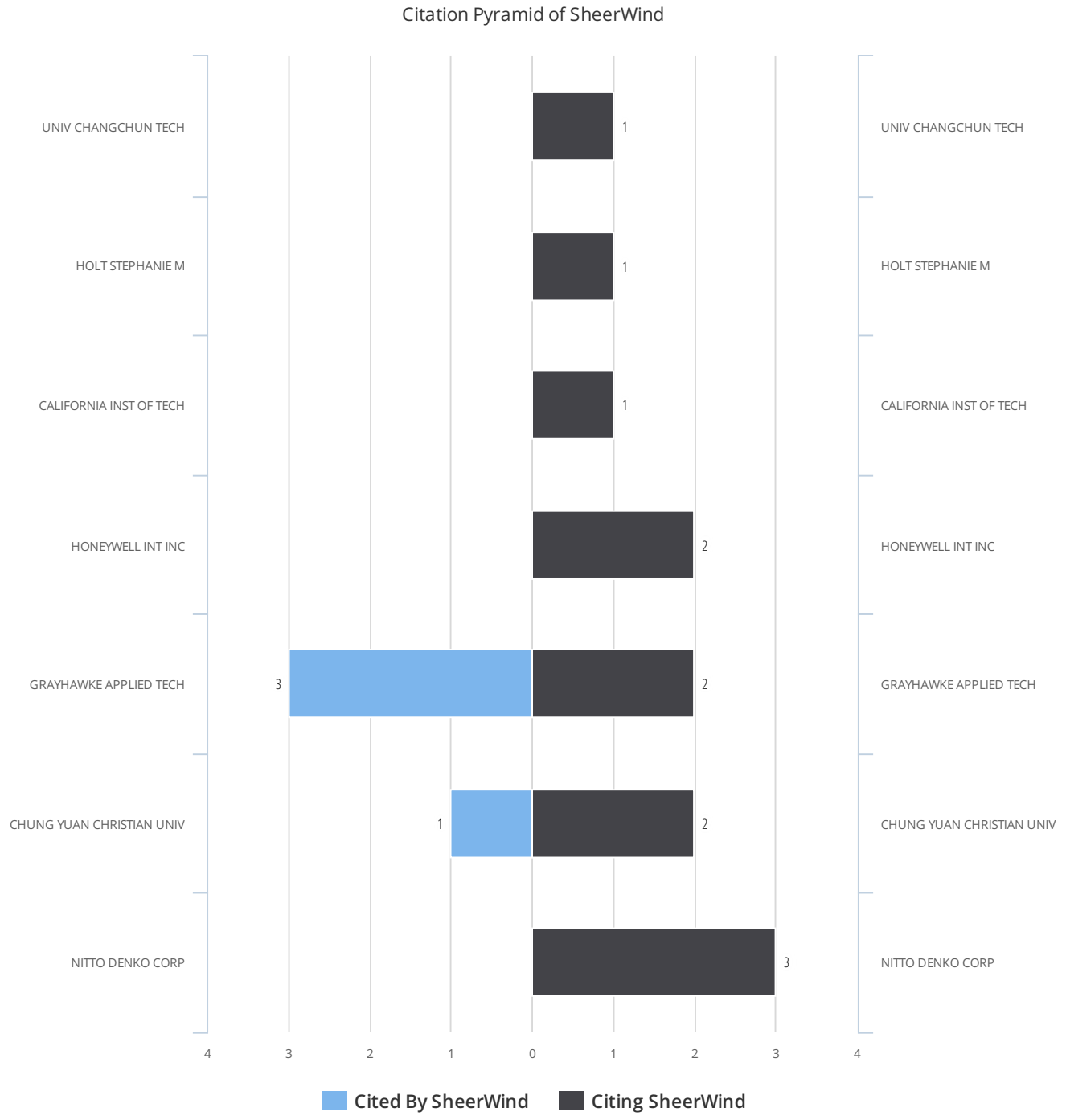


Source: www.AcclaimIP.com

Citation Pyramid Analysis of SheerWind's US Portfolio

Relative Strength by Citing and Cited Patents

The citation pyramid shows the number of patents that cite SheerWind's portfolio and the number of patents that are cited by SheerWind to a particular patent owner. The top 20 citing assignees are analyzed, then the number of cited (by SheerWind) patent documents is mapped for each assignee.



Source: www.AcclaimIP.com

SheerWind's Interesting Patents

The following is a short list of interesting patents owned by SheerWind. The patents described below are standouts when ranked by various statistical value indicators. A complete ranked list by any of these measures - and up to 30 more - may be provided on request.

14 Forward Citations

Patent US7811048 (*Turbine-intake tower for wind energy conversion systems*) has earned 14 forward citations since it was filed on 2009-02-12 making it SheerWind's most cited patent. Top citers include and SHEER WIND INC (3).

4.77 Years Pendency

Patent US8651798 (*Kinetic hydropower generation system and intake therefore*) has the longest pendency of any of SheerWind's US patent holdings. Patents with exceptionally long pendencies tend to be top patents.

23 Claims

Patent US8651798 (*Kinetic hydropower generation system and intake therefore*) boasts 23 claims, putting it in first place among all SheerWind patents. Patents with a higher number of claims require a larger investment in prosecution and tend to be better patents.

14 Family Members

Patent US9294013 (*Buildings with wind-energy-conversion systems*) contains 14 members in its simple patent family making it the priority US document in SheerWind's largest patent family. Patents from large families containing divisionals, continuations and a large ecosystem of non-US counterparts represent a large investment in patenting and are often high value patents.

75 Words in Claim 1

Patent US7812472's 75-word claim...

A skin structure, comprising: a skin; and a power generation system attached to the skin, the power generation system, comprising: a turbine; one or more tubes fluidly coupled to the turbine; a generator configured to generate electrical power in response to motion of the turbine; and an actuator coupled to at least one of the one or more tubes that can adjust a shape of the at least one of the one or more tubes.

... is the shortest among all SheerWind's US utility patents granted. Short claims tend to be very broad.

76 Strength Score

Patent US9291148 (*Intake assemblies for wind-energy conversion systems and methods*) has earned the highest statistical strength ranking of all SheerWind patents. A patent's statistical strength is calculated using an assortment of weighted value metrics and has been shown to have a positive correlation with a patent's true value.