

Flower Turbines | <https://www.flowerturbines.com/>

TERMS (via startengine.com)

Overview

Price per share: \$12

Funding Goal: \$15k - \$2M

Deadline: 31st May 2024, 11:59PM PDT

Valuation (per company) \$133.68M

Breakdown

Minimum Investment: \$600

Maximum Investment: \$2,500,008

Offering type: Equity

Asset type: Common Stock

Minimum # shares offered: 1,250

Maximum # shares offered: 166,666

Company Description:

Flower Turbines produces stylized urban wind turbines and seeks to make wind power more accessible, efficient, quiet, and bird friendly. They currently offer 8 different products that vary in size and utility. They have already passed two rounds of piloting and an initial round of 1000 turbines for a major oil company.

A selling point of their turbines is the "Bouquet Effect" in which performance of each individual turbine increases by 25% with each surrounding turbine added, leading to a scaling of energy with the more turbines are close to each other. This gives the flower turbine a competitive edge against current wind turbines that require much greater space.

Company Highlights

STRONG IP POSITION

Flower Turbines holds a portfolio of 30 patents that have been filed & granted globally.

ENERGY HYBRID STRATEGY

Despite being a wind energy focused company, Flower Turbines also incorporates solar in its product design.

STRONG BRAND AWARENESS

Flower Turbines partners with artists to design unique collectible art pieces integrated with the turbine on their Flower Power website.



Company/Industry Background

In the two last decades, the amount of electricity generated by wind in the world has grown exponentially, beating out solar and other renewables. Falling costs, government incentives, and technological developments have scaled the efficacy of wind energy production greatly. However, despite the increase in efficacy, the industry still faces a few major challenges, such as grid integration, environmental and social impacts.

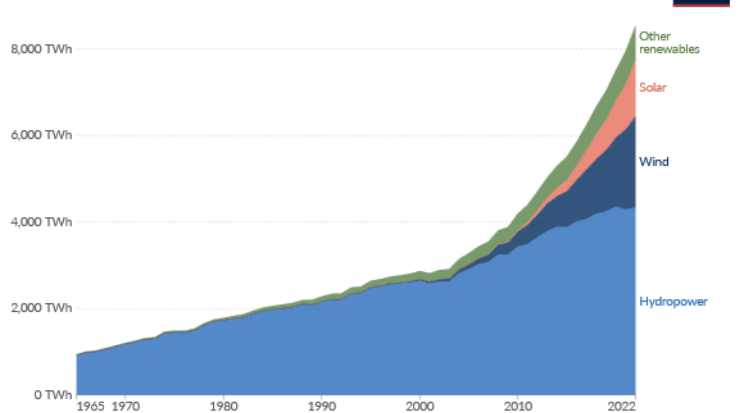
Grid integration poses a wide set of issues for wind energy. Given the intermittent and variable nature of wind, it remains imperative for feasible wind energy strategies to be able to attain and maintain infrastructure to capture, store, and transmit wind energy, and to also forecast the wind weather of the given geographical location of the wind farm accurately. These costs can eat into a company's ability to generate profits; thus government incentives remain an incredibly important part of encouraging the growth of this industry.

Given the increasing size of wind turbines in the last few decades, most wind farms are set up in areas far from population centers and existing grid infrastructure, which leads to the need for investing in transmission lines. This along with zoning laws for the space that wind farms occupy can pose a challenge for companies to attain and maintain.

Flower Turbines seeks to overcome these challenges by creating small, localized wind turbines that can exist in urban settings. The company also embraces a hybrid model with solar attachments to their charging pole product and intentional spatial design in the anticipation of their turbines to be used in conjunction with solar roofing. This hybrid model could potentially hedge the variability of both types of renewables.

Another major challenge is the environmental impacts and the social stigma around current wind energy practice. Wind farms have a reputation of killing birds. According to a study done by a wind specialist Joel Merriman in 2021, up to 1.17 million

Renewable electricity generation, World



Data source: Energy Institute - Statistical Review of World Energy (2023) OurWorldInData.org/renewable-energy | CC BY
Note: 'Other renewables' refers to renewable sources including geothermal, biomass, waste, wave and tidal. Traditional biomass is not included.



birds are estimated to have died from impact into wind turbine fans every year in the US alone. This however is a small fraction compared to the amount of birds killed by cats alone (365 million). The real concern lies in the fact that wind farms occupy air space for birds of prey which are fewer in number than other birds, and that the scaling of wind farms would increase these avian mortality numbers.

The engineers at Flower Turbines have taken this into consideration and have intentionally designed their wind energy products to overcome this specific challenge and negative social stigma that wind turbines carry. The design also presents an opportunity for highly recognizable branding that has

already been gaining traction as evidenced by the

turbine being placed as art displays.

Recent Developments

- ◆ Expansion of US operational facility headquarters in Lubbock, Texas.
- ◆ AL13 Power Tower: Advanced Aerodynamics with Aluminum Blades
- ◆ Luxury line of art turbines on display at the Texas Tech University
- ◆ Popularity of Charging systems in the EU & New and larger site of operations in the Netherlands
- ◆ Introduction of the Survival Unit product in the US & Roof mount for wind and solar with no bolts

Financial Analysis

The poor profitability and efficiency of the company, in our opinion, could be attributed to the fact that the company is still in its infancy. Its first offering statement was filed in 2018, and the company has only started operating in recent years. The company also weakened its cash position last year, making it more susceptible to liquidity risk, as evidenced in its very low cash ratio.

The sudden increase in debt in 2023 can be attributed to a \$115,000 loan used to purchase more property and equipment (see statement of cash flows pg. 7)

This could potentially be highlighting the company's commitment to growth, which is further evidenced by its efforts to drastically increase PPE over the last few years.

The fluctuating margins could be a testament to the amount of material pricing risk that the company is exposed to

LIQUIDITY RATIOS	2023	2022	2021	2020
Current	2.04	3.01	10.40	1.61
Cash	0.01	0.58	4.73	0.24
Operating Cash Flow*	-5.23	-8.41	-6.32	-5.22
LEVERAGE				
Debt to Assets	0.51	0.33	0.11	0.78
Debt to Equity	1.02	0.49	0.12	3.51
Interest Coverage*	-158.30	-752.82	-702.07	-225.14
EFFICIENCY				
Asset Turnover	0.19	0.07	0.12	
Inventory Turnover	0.91	1.99	5.30	
Receivables Turnover	1.47	1.92	4.78	
PROFITABILITY RATIO*				
Gross margin	-51%	-132%	-41%	-152%
Operating Margin	-1084%	-1493%	-927%	-757%
Return on Avg Assets	-220%	-222%	-59%	
Return on Avg Equity	-367%	-128%	-129%	
OTHER (YoY)				
% change in Revenue	26.3%	-27.0%	130.3%	
% change in PPE	45.2%	300.5%	264.6%	
*negatives indicate net total and operating losses.				

Management

Dr. Daniel Farb: Founder, CEO, Director

CEO and founder of Leviathan Energy group, a group of renewable energy companies in Israel and US with innovations in wind, water, wave, and underwater turbines. Dr. Farb holds multiple degrees in business management, medicine, and literature, and was briefly a patent writer and consultant with an intellectual property law firm in Israel. He served as the CEO of UniversityofHealthcare.com and UniversityOfBusiness.com from 1999-2005.

Warren Stoll: COO

Previously led a series of tech and real estate businesses, has raised venture capital for four start ups and led each company from inception to growth to sale. Founded Einstein software 1982, the company responsible for the Einstein word processor which was subsequently sold to Microsoft. Holds a BA from CSUN and JD from Southwestern School of Law. Creator of Flower Power, a product line of Flower Turbines.

Irakli Baitish: Consultant Mechanical Engineer

Teacher of engineering software Catia. Owns a company A-B Engineering, specializes in designing low-cost manufacturing aerodynamics products and works with three other Technion graduates on Flower Turbines project: Yury Gurevich: mechanical Engineer, specializes in 3D scanning, reverse engineering, advanced surface design. Dima Sladkov: mechanical engineer, specializes in materials, tolerances, and manufacturing processes. Arthur Bayzer, BS and MS in aerospace engineering, experienced with wind turbines.

Risks

- **Going Concern Note:** The company's financials are precarious, current negative operating margins could be a sign that the company's operations are not viable, and if the company is unable to resolve this issue, cash flow deficits could lead to an inability to pay back debtors. Additionally, the company is still taking on research and development costs which will continue to limit their cash flows.
- **Market Risks:** Demand for the company's products is highly correlated with economic conditions, a substantial portion of revenue comes from discretionary spending. In the case of poor market conditions, the business may not be able to generate enough revenue to cover costs and other liabilities.
- **Natural Disasters:** The company's products are sensitive to geographical location and conditions, thus changing climate and natural disasters could affect the viability of the flower turbine to withstand adverse weather in certain markets.
- **Industry Risks:** The growth of the business depends on the ability to finance new products: the wind industry is growing and volatile.
- **Competitor Risks:** There are quite a few substantial international and domestic renewable energy competitors, companies such as GE, Siemens, and Enercron have significant market share as well as the capital backing to develop and market their alternative energy products, and may produce better margins.
- **Design Failure Liability:** In the case that the product may have to be recalled and result in product liability claims, negative publicity and reputation, as well as other material expenses could negatively impact the company's business.
- **Regulations on Energy Industry:** The company's ability to comply with regulations and the changing of these regulations could affect the company's business.
- **Government Incentives and Policy:** The US wind industry is significantly impacted by tax and other economic incentives. Due to geographical variability in the viability of wind energy, the demand in certain states may vary, leading to the expiration or curtailment of certain tax programs.

Balance Sheets
As of December 31, 2023 and 2022

	2023	2022
ASSETS		
Current Assets		
Cash and cash equivalents	\$ 9,025	\$ 252,441
Accounts receivable	300,547	123,909
Prepaid expenses	27,201	18,309
Inventory	594,206	438,364
Investments	-	487,226
Other assets	93,837	-
Funds held in escrow	293,447	-
Total Current Assets	1,318,264	1,320,249
Non-Current Assets:		
Intangible assets, net	-	87,452
Right of use asset	44,130	99,434
Property and equipment, net	236,012	162,519
Total Non-Current Assets	280,142	349,405
TOTAL ASSETS	1,598,405	1,669,654
LIABILITIES AND STOCKHOLDERS' EQUITY		
Liabilities:		
Current Liabilities:		
Accounts Payable	\$ 119,151	\$ 98,444
Deferred Revenue	191,929	239,864
Accrued expenses	215,777	46,899
Loan payable, related party	77,801	-
Right of use liability - current	38,178	49,605
Notes payable - current	4,269	3,962
Total Current Liabilities	647,105	438,774
Long-Term Liabilities:		
Right of use liability - net of current	6,686	65,874
Loan payable	115,663	-
Notes payable - net of current	39,048	40,785
Total Long-Term Liabilities	161,396	106,659
Total Liabilities	808,502	545,433
Stockholders' Equity:		
Common stock, 0.0001 par, 20,000,000 shares authorized, 10,250,354 and 9,975,566 shares issued and outstanding as of December 31, 2023 and December 31, 2022, respectively	1,025	98
Additional paid-in capital	13,570,427	10,395,467
Accumulated deficit	(12,620,018)	(9,222,540)
Accumulated other comprehensive gain/(loss)	(161,531)	(49,704)
Total Stockholders' Equity	789,904	1,124,221
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	1,598,405	1,669,654

Income Statement

Year Ended December 31

	2023	2022
Net Revenues	\$ 312,307	\$ 247,208
Cost of net revenues	(470,736)	(573,805)
Gross profit/(loss)	(158,429)	(326,597)
Operating Expenses:		
General & Admin	1,365,156	2,555,294
Sales & marketing	481,254	18,500
Research and development	1,379,066	789,919
Total Operating Expenses	3,225,476	3,363,713
Loss from operations	(3,383,905)	(3,690,310)
Other Income/(Expense):		
Interest expense	(21,376)	(4,902)
Interest income	(15,942)	-
Other income/(expense)	23,745	(14,164)
Total Other Income/(Expense)	(13,573)	(19,066)
Provision for income taxes	-	-
Net loss	(3,397,478)	(3,709,376)
Foreign currency translation gain (loss)	(111,827)	5,980
Other comprehensive loss	(3,509,305)	(3,703,396)
Basic and diluted net loss per share	\$ (0.34)	\$ (0.37)
Weighted average shares outstanding - basic and diluted	10,112,960	9,973,623

Flower Turbines
Statement of Cash Flows

	Year Ended December 31	
	2023	2022
Cash Flows From Operating Activities		
Net loss	\$ (3,397,478)	\$ (3,709,376)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	148,971	30,858
Stock-based compensation	141,662	-
Inventory reserve change	-	344,362
Non-cash lease expense	(15,310)	16,045
Changes in operating assets and liabilities:		
(Increase)/Decrease in prepaid expenses	(8,892)	60,245
(Increase)/Decrease in other assets	(93,837)	131,097
(Increase)/Decrease in Funds held in escrow	(293,447)	-
(Increase)/Decrease in inventory	(155,842)	(643,496)
(Increase)/Decrease in accounts receivable	(176,638)	9,242
Increase/(Decrease) in accounts payable	20,707	(183,205)
Increase/(Decrease) in accrued expenses	168,878	(17,342)
Increase/(Decrease) in deferred revenue	(47,935)	92,952
Net Cash Used In Operating Activities	<u>(3,709,161)</u>	<u>(3,868,618)</u>
Cash Flows From Investing Activities		
Patent costs	-	(87,452)
Purchase of investments	-	(487,226)
Sale of investments	487,226	-
Purchase of property of equipment	(19,349)	(152,797)
Net cash Provided by (Used In) Investing Activities	<u>467,877</u>	<u>(727,475)</u>
Cash Flows From Financing Activities		
Proceeds from/(payments to) notes payable	(1,430)	(12,188)
Proceeds, net of repayments of loan payable, related party	77,801	-
Proceeds from issuance of stock	3,033,325	2,504,064
Net cash Provided by Financing Activities	<u>3,109,696</u>	<u>2,491,876</u>
Cash effects of foreign currency translation loss	(111,827)	5,980
Net Change in Cash	(243,416)	(2,098,237)
Cash at Beginning of Year	252,441	2,350,678
Cash at End of Year	<u>9,025</u>	<u>252,441</u>
Supplemental Disclosure of Cash Flow Information		
Cash paid for interest	17,935	4,902
Cash paid for income taxes	-	-
Supplemental Disclosure of Non-Cash Investing Activities		
Property and equipment purchased with loan	(115,000)	-

Sources

<https://www.reuters.com/business/energy/wind-power-giants-give-bleak-view-2024-challenges-persist-2024-02-07/>

<https://www.reuters.com/sustainability/climate-energy/wind-power-industry-drifts-off-course-2023-09-28/>

<https://ourworldindata.org/renewable-energy> (charts)

<https://www.energymonitor.ai/renewables/weekly-data-how-many-birds-are-really-killed-by-wind-turbines/?cf-view>

<https://climate.mit.edu/ask-mit/do-wind-turbines-kill-birds>

<https://theconversation.com/why-us-offshore-wind-power-is-struggling-the-good-the-bad-and-the-opportunity-228983>

DISCLAIMER

Paul M. Wendee & Associates, LLC may have received a flat fee from the company discussed in this report as part of a “Sponsored Research” agreement between Paul M. Wendee & Associates, LLC and the company; or may have an investment banking arrangement with the company. No part of Paul M. Wendee & Associates, LLC Research’s compensation is directly or indirectly related to the content of this assessment or to other opinions expressed in this report. Paul M. Wendee & Associates, LLC provides a suite of Sponsored Research services including, but not limited to, initial reports with ongoing coverage and updates; proprietary Paul M. Wendee & Associates, LLC earnings estimates; distribution to Paul M. Wendee & Associates, LLC’s clients; a license to enable the company to proactively use and distribute the report; and a press release announcing our initial coverage and updates. Paul M. Wendee & Associates, LLC may receive a part of its compensation in the form of stock or other securities issued by the company discussed in this report, and may have a long equity position or short sale position in the company’s stock. Paul M. Wendee & Associates, LLC may have been involved in underwriting securities for the subject company, and may receive proceeds or other financial benefit from any securities offering by the company. Paul M. Wendee & Associates, LLC; its officers, directors, and affiliates; and the author of this report may have a financial interest in, or affiliation with, the subject firm. The report is disseminated primarily in electronic form and is made available at approximately the same time to all eligible recipients. Paul M. Wendee & Associates, LLC is an independent investment research provider whose related company, Paul M. Wendee & Associates, is registered with the State of California as a Registered Investment Adviser. Neither Paul M. Wendee & Associates, LLC nor any affiliate is a member of the FINRA or the SIPC. Paul M. Wendee & Associates, LLC is not a registered broker dealer. Dr. Paul M. Wendee has securities licenses that are registered with Entoro Securities, LLC, which is a member of FINRA and SIPC. The Paul M. Wendee & Associates, LLC trademark, service mark and logo are the intellectual property of Paul M. Wendee & Associates, LLC. The information contained in this research report is produced and copyrighted by Paul M. Wendee & Associates, LLC, and any unauthorized use, duplication, redistribution or disclosure is prohibited by law and can result in prosecution. The content of this report may be derived from Paul M. Wendee & Associates, LLC research reports, notes, or analyses. The opinions and information contained herein have been obtained or derived from sources believed to be reliable, but Paul M. Wendee & Associates, LLC makes no representation as to their timeliness, accuracy or completeness or for their fitness for any particular purpose. This report is not an offer to sell or a solicitation of an offer to buy any security. The information and material presented in this report are for general information only and do not specifically address individual investment objectives, financial situations or the particular needs of any specific person who may receive this report. Investing in any security or investment strategies discussed may not be suitable for you and it is recommended that you consult an independent investment advisor. Nothing in this report constitutes individual investment, legal or tax advice. Paul M. Wendee & Associates, LLC may issue or may have issued other reports that are inconsistent with or may reach different conclusions than those represented in this report, and all opinions are reflective of judgments made on the original date of publication. Paul M. Wendee & Associates, LLC is under no obligation to ensure that other reports are brought to the attention of any recipient of this report. Paul M. Wendee & Associates, LLC shall accept no liability for any loss arising from the use of this report, nor shall Paul M. Wendee & Associates, LLC treat all recipients of this report as customers simply by virtue of their receipt of this material. Investments involve risk and an investor may incur either profits or losses. Past performance should not be taken as an indication or guarantee of future performance. Paul M. Wendee & Associates, LLC has provided independent research since 1998. Paul M. Wendee & Associates, LLC officers, employees, agents and/or affiliates may have positions in stocks discussed in this report. Paul M. Wendee & Associates, LLC officers, employees, agents and/or affiliates may serve as officers or directors of covered companies, or may own more than one percent of a covered company’s stock.