Digital Safari Greenbizz Company
Business Plan Competition 2011

CEO: Daniel Walsh
CMO: Cesia Gomez
CTO: Jessemar Servida
CFO: Enrique Vazquez

Piezo Power's

Billions of people walk every day. When they do they are putting energy straight into the ground. "Everything generates power--about 1 watt per breath, 70 watts per step." –Times Magazine, The 50 best inventions of 2010. What if you could take that energy and use it to power your lights or electronics? Electroturf is the product that will convert that mechanical pressure into energy. It is a type of subflooring that will be implemented into high traffic areas for maximum output. This will save the consumer money on their electrical bill. And as prices for electricity continues to grow, the value of Electroturf will increase as well.

Essentially Electroturf is an investment that pays the consumer back over time, through energy production and energy efficiency tax breaks. Subflooring is a common product in construction. As construction continues to expand, the demand for flooring will grow. Since subflooring is a complimentary good to flooring, the demand for subflooring will grow as well. And what sets Electroturf apart from competitors is its ability to provide electricity for the consumer. Also unlike most other subflooring providers, Piezo Power's Electroturf will be an investment that returns dollars to consumers.

Piezo Power's marketing will focus in the following areas: commercials, trade shows, and direct sales. Trade shows will be Piezo Power's main sale route. But actually getting to our target market will be through industrial suppliers. We will establish a contract with them and sell to them because they have already studied and worked with our solution. But as Electroturf's popularity increases through commercials, trade shows, online sales, and references, we will no longer have to rely on the supplier. Then we can sell directly and increase our profit margin.

Piezo power will sell one unit, 1500sq.ft. of Electroturf, at $2250. By the fourth year the price will increase to $2500 per unit. The reason behind the price change is by this time the price of electricity will increase, which increases the value of Electroturf for the buyer. It would be poor business to let the price of our goods stagnate. By the fifth year Piezo Power will be a $72 million company. Based on our profit margins, each year the company will make more money than the prior year. Piezo Power needs $4 million to become a $72 million company.

Leading the company is Daniel Walsh the CEO. The CMO is Cesia Gomez, who is in charge of the marketing campaigns. The CFO is Enrique Valazquez, who will be in charge of expenses and profit margins. Jessemar Servida is the CTO of Piezo Power, and he knows the fundamentals of Electroturf. Together they will take Piezo Power further, one step at a time.

Electroturf

Piezo Power's main focus is on the environment. We believe in the viability and well being of future generations. We want to preserve the planet as much as possible and start improving our futures now. Piezo Power is doing this "one step at a time" by reducing their customers' carbon "footprint".

company

Piezo Power believes in the viability and well being of future generations.

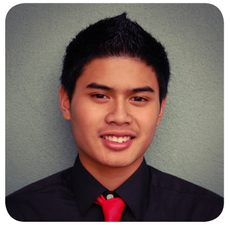
Piezo Power saw that materials such as Rochelle salt and quartz create energy through mechanical pressure. In small scale, the energy seems insignificant. But on a large scale, there's potential for this product, Electroturf. This type of electricity, piezoelectricity, has been around for years, but has yet to be used to its full potential. That is where Piezo Power comes in and unleashes the full potential with Electroturf. "Energy, Just a step away."

Chief Executive Officer
Daniel Walsh

Daniel Walsh is a graduate from UC Berkeley. There he received a master's degree in both Business and Engineering. He has written and shot documentaries. He was also the previous CEO of SVW, an organization designed to help people in Angola improve their standard of living through green nutritional centers. With his sight towards the future and his heart set to save the environment, Daniel is prepared to lead Piezo Power into success.

Chief Marketing Officer
Cesia Gomez

Cesia Gomez is a Marketing Management graduate from Biola University in California. Cesia has volunteered for habitat for humanity, building homes for the homeless. She has helped fundraise for Girl Up from UNICEF. She wishes for her marketing to reach new people and raise awareness about global warming and other environmental problems. Her humanism as well as her knowledge in the marketing world makes her an excellent addition to the Piezo Power team.



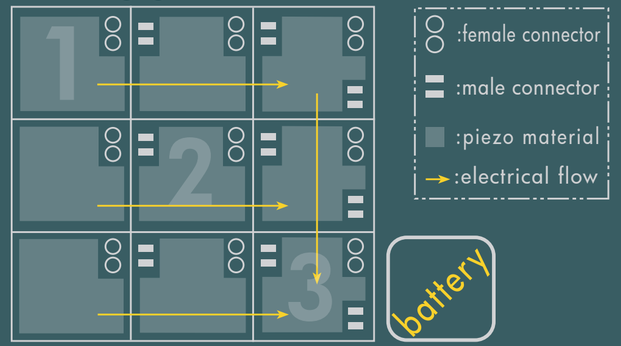
Chief Technical Officer
Jessemar Servida

Jessemar Servida is the CTO of Piezo Power and has always had major interest in the future of the Earth and his people. He received a master's degree in chemistry at UC Berkeley. He attended the Digital Safari Academy, where he learned photography and videoography. He has filmed and edited documentaries pertaining to the rights of people. His technical knowledge will be an asset to Piezo Power.

Chief Financial Officer
Enrique Vazquez

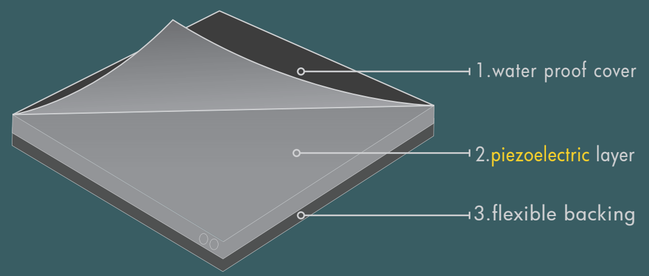
Enrique Vazquez is the CFO of Piezo Power. He graduated from the UC Davis and majored in mathematics. He joined the Digital Safari Academy, an academy at Mount Diablo High School, that showed him how to work with computers. Enrique always wanted to make the world a better place by saving energy, trees, and water. His knowledge as well as his passion will be a great asset to Piezo Power.

Flooring grid



Electroturf will be sold as subfloor tiles. These subfloor tiles will be interconnected through a grid connected by male and female connectors. The subfloor tiles are sectioned into three different tiles. 1. A starting row tile which only has one female connector. 2. Row tiles that have both a male and female connector. 3. An end row that has a female and two male connectors, which transition the energy from the row into the column. This simple grid easily allows energy anywhere throughout the grid to find its way to the battery. This is because the charge of the battery is opposite of the tiles, thus the energy is drawn to the battery.

- Fairly simple installation process
- Occupies space already being used
- Can be impimented virtually anywhere
- Allows consumer to apply for tax breaks
- Saves money on the electrical bill
- Harvests energy otherwise wasted
- Made from eco-friendly Rochelle salt
- Suplements energy used in business



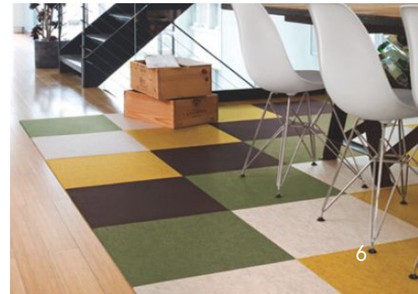
Although Piezo Power's Electroturf is designed as subflooring, it doesn't have to be installed under floors. It can also replace floors. Piezo Power separates itself from the competition by using a piezoelectric material, polarized Rochelle salt (harmless to the environment), that when pressure is applied it creates an electrical current. This electrical current will be stored in a battery that can later be used to power lights or electronics. Our solution offers an investment for the consumer, by reducing the consumers' electrical bill. Also the consumer can apply for tax breaks by using Electroturf. The tax breaks will vary but its lowest return is estimated at $1,500 per year.

The subfloor comes in 3X5feet tiles. The squares are divided into three different layers: 1. Rubber topping (to protect the electrical components). This top layer keeps the product secure as well as flexible and protects it from overuse and spills. 2. A layer of polarized Rochelle salt and matrix of wires and connectors. This is the main layer of the product and is where the energy is harvested from. 3. A second layer of rubber for insulation and increased durability. The backing layer is flexible so that it will take tension away from the piezoelectric material. This patented design forms a product that is an eco-friendly investment for the consumer.

Simple grid channels energy harvested from the sub floors, to a battery.

product

The battery will be relatively small(1ft. by 1ft. by 1/4ft.) to take up the least amount of space. The battery will be connected between Electroturf and the electrical socket. This way instead of directly plugging your lights of machinery into the wall, which is taking energy from PG&E, you will instead plug it into Electroturf's battery. The energy will be taken from the battery, before it takes it from the wall. What will restrict the energy flow is a capacitor; it will stop electricity from just going into the wall. This makes sure that the consumer's electronics don't suddenly power of when Electroturf isn't generating any energy.



As we peer into the future we can see the demand for electricity increase. Likewise the price of electricity is increasing. Energy, in this day and age, has become a necessity. And since the demand for electricity is inelastic, the price can continue to rise and the quantity demanded will stay the same or increase. Statistics have shown that the price of electricity will continue to increase over time. Which means the consumer's electrical bills will increase as well.

As both the demand and price of electricity increases, the value of Electroturf will increase. This is because Electroturf creates alternative electricity. Meaning that this created electricity subtracts from the quantity of electricity you need from the electrical companies, which saves you money. And as the price of electricity increases, consumer savings increases. And the more money the consumer can save the more of an incentive it is to the consumer to buy Electroturf.

opportunity

As the price for energy continues to increase,

The trend of construction is another factor we can see that will benefit Electroturf. As the demand of construction increases, the amount of flooring needed increases. Since Electroturf is a complimentary good to flooring, then as the demand for flooring increases the demand for our product also increases.

This means that our market will continue to expand as our company expands. So not only will the demand for our product increase, the market opportunity for our product will increase. Based on this fact our company will continue to grow in the future. As our products demand increases the popularity of product will increase, which will mean more sales in the future.

the value of Electroturf will increase.

Being a product that pays the consumer over time, the demand for our product will increase. Lots of people complain about going green because it is a waste of money in their perspective. Electroturf is different, and actually the opposite of that. Electroturf will put money in the pockets of its consumers by lowering their electrical bill. They save money that they otherwise woukd have had to pay since electricity is a monthly recurring cost. By lowering the costs to consumers, we can increase our opportunity as well as the demand for Electroturf. And as the cost of electricity increase (average 5.5% a year) the demand of our product will increase too.

Pinnacle is one of our competitors because they manufactured the first green premium subflooring product being offered to builders. Pinnacle helps you work toward meeting green program standards like the LEED and the ANSI National Green Building Standard. Pinnacle is also our competitor because like our product they are promoting green as well. The key difference between our two products is that our product will save the consumer money by making energy. Our product will reduce the electric bill and keep money in their wallet. Pinnacle, unlike Electroturf, cannot be recycled and has to be thrown away, which creates more waste. Piezo Power's Electroturf can be sent back to us to be recycled and reused.

competitive

Another competitor for our product is BP Solar, a solar panel company. BP Solar is one of the leading companies in the green energy market. Their solar panels are installed all over the world and they have many customers. Even though they are a leading company in solar panels their energy isn't always reliable. Their product can only produce electricity on sunny days, and since weather is a big factor many people prefer not to install them at their home or business. Solar panels are also very expensive to install, take up a lot of space, and can be unsightly so many people decide to rely on traditional energy. Also many solar panels aren't allowed in certain neighborhoods depending on home owners association standards. Even though solar energy is stored, it requires a backup supply that is complemented with wind power, making solar panels unreliable without any backup electricity.

PIceramic has a variety of piezoelectric products out in the market that creates competition with Electroturf. Some of their products are similar to Electroturf's technology. PIceramic offers the consumer a variety of choices and each choice has a different utility. Their products vary from electric conductors to the simplest form of piezoelectricity, which are radio waves that are used in microphones. PIceramics products have a disadvantage to our products because they make their piezoelectricity with lead materials. Lead has been proven to be harmful for the environment and if not disposed of properly it could cause poison in wild life and a potential risk for human health.

Electroturf is an investment that saves the consumer money on their electrical bill and allows them to apply for tax breaks.

customer

Piezo Power's target customers are primarily businesses with high traffic areas. Piezo Power's Electroturf is subflooring that will allow consumers to create their own energy, just by walking. The electrical charge created will travel through the other subfloor tiles to be stored in a battery that can later be used to power lights or machinery. The consumer will be attracted by our product for its clean energy and recyclable materials but primarily they will be interested in the money it will save and make. Not only will it pay the consumer as they walk, but they will benefit from tax breaks that they can apply for.

Our target customers are locations such as airports, sport fields, and gyms that experience high foot traffic. The more foot traffic the business can create, the more money they will save. This means businesses such as: airports, malls, schools, stadiums, and our customers will benefit the most from Electroturf. The more you step the more you make. The consumer can harvest about 25% of the 70 watts that you generate from every step (17 watts). Even if the consumer is unable to create the required amount of energy to pay the product off, the consumer has annual savings from the tax breaks they will receive.

Other target customers will be companies that wish to be green and save energy. The usual subflooring is easy to install, as will be Electroturf. Electroturf will be the same size as other subflooring (3X5ft). This way it can be easily be used instead of simple subflooring. The difference between our subflooring versus other companies' subflooring is that ours will allow the consumer to make money as they step. This investment in our product will constantly pay the consumer of over time. The more traffic there is the more energy that can be potentially harvested. Energy, just a step away!

Piezo Power plans to enter the market in two different ways. These main strategies will consist of direct sale and sale by the distributer. Direct sale will be of benefit because Piezo Power will gain a biger profit even though our market will be smaller. Sale by distributor will make a smaller profit but our market will be big. In sale by distributor Piezo Power will have a definite market for Electroturf, therefore creating a safe market for our company.

We will sell through distributers and by direct sale to increase market size and profit margin.

The market with the distributors will bring a large market, a profit difference, and most importantly safety for the investor. The profit difference will not be a problem for the lower revenue but will create more demand for our product from our distributors. The market that the distributor has already built will be our market making it safer for Piezo Power to supply to. This safety for demand and supply will create safety for our investors to invest in Piezo Power. We will have a 5 year contract with our distributers that will state that Piezo Power will supply them with a certain amount of product without underselling our product somewhere else, making sure that we will stay reliant and will not cheat them along the line

Direct sale will include: trade shows, advertisement and direct contact. Piezo Power will create commercials that will spark the curiosity of the consumer; there we will provide our contact information for questions or sales. Piezo Power will adventure into trade shows such as green Builder's conventions and more. Our website will be informative and easily to use for the consumer to buy Electroturf. Direct sale will have higher profit within the smaller market.

Piezo Power will stay true to the distributors and their market by honoring our contract. We will have a 5 year contract with our distributers because as popularity rises for Electroturf, we will be able to make our own sales without the need of a distributor. This will be done through our advertisements and referrals. Our goal is to eventually be bought out or grow until becoming a brand name, which will allow us to go public.

Piezo Power is potentially a $72 million company that will keep growing as the price of electricity continues to rise.

financial

Piezo Power will initially spend $3,150,000 on the cost of goods which include the cost of labor and manufacturing of Electroturf. For the purposes of this plan it is assumed that the cost of goods are driven by the following individual items: Rochelle salt is $1.00 for 1,000kg, copper wire is $1.00 for 10kg, rubber is $4.00 for 18sqm, male and female connectors are $0.01per piece. Our product will sell for $2250 for every 1500 square feet. Later on by the 4th year we will raise the price to $2500.

We will be using 30% of our budget for marketing. Most of this money will be going into the cost for our workers airline tickets to attend to the trade shows, their stay in hotels and the materials to be used such as: poster boards, and examples of Electroturf.

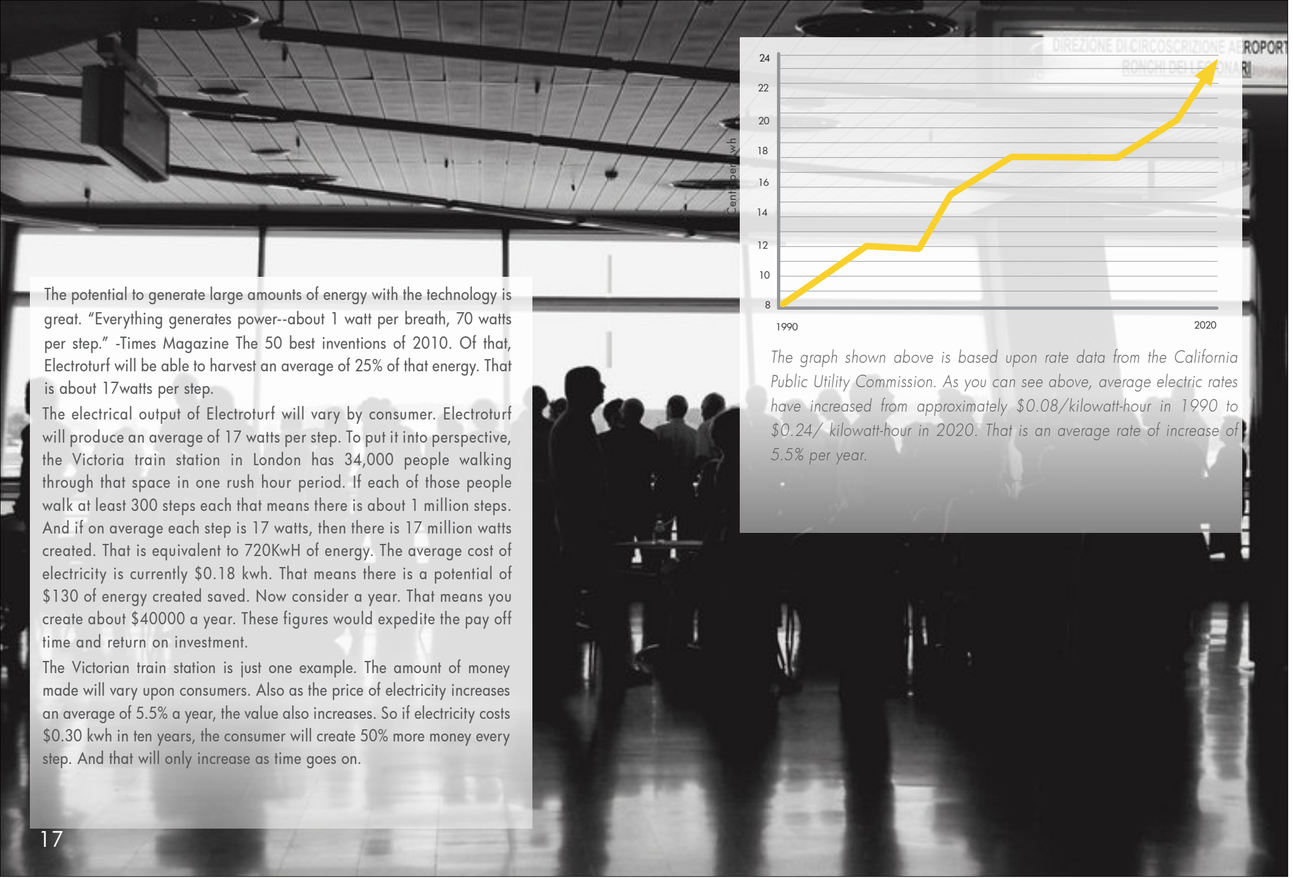
For the purposes of this plan it is assumed that the operations budget for our company comprises 80% of our revenue and is composed of the following individual items: materials, rent, transportation, workers insurance, equipment salaries, marketing, utilities, etc. And by having the Electroturf in the factory our profits will increase because our utility bill will decrease.

Our projected estimate that by the 5th year is that Piezo Power will be a $72,000,000 company. By the 5th year we estimate that our profit margin would be 16%. Our initial sales like any beginning company will be small. By the end of the first year Electroturf will gain popularity through ads and referrals. And towards the third and forth big businesses (i.e. airports, malls, and stadiums) will buy Electroturf because they will see how much of an investment Electroturf is.

Based on our estimated projections Piezo Power will need $4 million to turn this innovative idea into a money making machine. Not only will the sale of Electroturf create profit, but the reduction on the electrical bill. Together Piezo Power will expediently reach the breakeven point. That means Piezo Power will be able to pay the investor back faster. The plan shows that an initial investment of $4 million will be worth $16 million in five years.

Earning Projections- First year	Q1 2011	Q2 2011	Q3 2011	Q4 2011
Operations *(fixed costs)*	$772,500	$840,000	$862,500	$975,000
Cost of Goods *(variable costs)*	$157,500	$630,000	$787,500	$1,575,000
Wholesale Price	$2,250	$2,250	$2,250	$2,250
Production Units	100	400	500	1000
Revenue *(price x units)*	$225,000	$900,000	$1,125,000	$2,250,000
Profit *(revenue - costs)*	$705,000	$570,000	$525,000	$300,000
Total Earnings	$705,000	$1,275,000	$1,800,000	$2,100,000
Profit Margin	-313.33%	-63.33%	-46.67%	-13.33%

Earnings Projection - Five Year	2011	2012	2013	2014	2015
Operations (fixed costs)	$3,450,000	$4,350,000	$5,250,000	$7,250,000	$10,250,000
Cost of Goods (variable costs)	$3,150,000	$9,450,000	$15,750,000	$29,750,000	$50,750,000
Wholesale Price	$2,250	$2,250	$2,250	$2,500	$2,500
Production Units	2000	6000	10000	17000	29000
Revenue (price x units)	$4,500,000	$13,500,000	$22,500,000	$42,500,000	$72,500,000
Profit (revenue-costs)	$2,100,000	$300,000	$1,500,000	$5,500,000	$11,500,000
Total Earnings	$2,100,000	$2,400,000	$900,000	$4,600,000	$16,100,000
Profit Margin	-47%	-2%	7%	13%	16%



The potential to generate large amounts of energy with the technology is great. “Everything generates power--about 1 watt per breath, 70 watts per step.” -Times Magazine The 50 best inventions of 2010. Of that, Electroturf will be able to harvest an average of 25% of that energy. That is about 17watts per step.

The electrical output of Electroturf will vary by consumer. Electroturf will produce an average of 17 watts per step. To put it into perspective, the Victoria train station in London has 34,000 people walking through that space in one rush hour period. If each of those people walk at least 300 steps each that means there is about 1 million steps. And if on average each step is 17 watts, then there is 17 million watts created. That is equivalent to 720KwH of energy. The average cost of electricity is currently $0.18 kwh. That means there is a potential of $130 of energy created saved. Now consider a year. That means you create about $40000 a year. These figures would expedite the pay off time and return on investment.

The Victorian train station is just one example. The amount of money made will vary upon consumers. Also as the price of electricity increases an average of 5.5% a year, the value also increases. So if electricity costs $0.30 kwh in ten years, the consumer will create 50% more money every step. And that will only increase as time goes on.

The graph shown above is based upon rate data from the California Public Utility Commission. As you can see above, average electric rates have increased from approximately $0.08/kilowatt-hour in 1990 to $0.24/ kilowatt-hour in 2020. That is an average rate of increase of 5.5% per year.

Statistics have shown that the price of electricity is increasing. As demand for electricity increases, the price increases along side. Californian residents are spending an average of $200 per month on electricity bills or $2400 a year. The annual electric rates for California have increased an average of 5.5% and can reasonably be assumed to continue to rise at the same rate over the next 10 years. At this rate in ten years a consumer would have to pay $3,200 annually on electricity alone.

Save money on your electrical bill and taxes.

Taxes are also continually increasing. More and more bills are being passed to increase taxes. That trend is very unlikely to change in the future. Electroturf will help fight high taxes. Like Solar companies Piezo Power will allow their consumers to apply for tax breaks. This will be roughly $1000 of the consumers taxes (varies upon usage). This tax break will help quickly pay back the consumer investment. And as the pay off for Electroturf increases the higher the demand is for Electroturf.

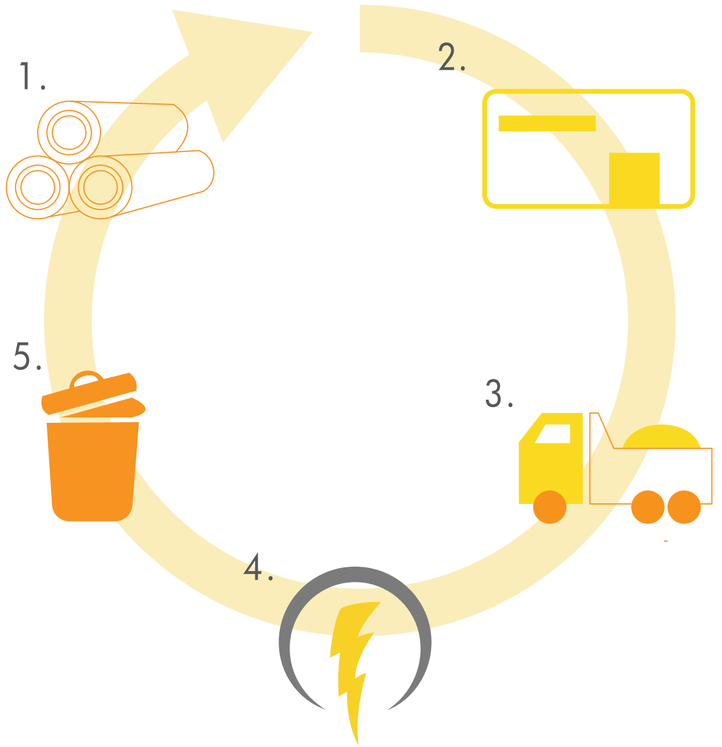
Electroturf will reduce the "carbon footprint" by creating clean energy by using harmless crystals.

life cycle

1. Piezo Power will acquire materials from China. The Rochelle salt will be imported from Pinhuangdao Bright Chemical Co. The plastic will be imported from Treasurereap Technology Shezhen in Hong Kong. The rubber will be from China's Yuyao Youngsheng Rubber and Plastic Product Factory. The copper wire and the battery cell will be imported from China's Henon Youk Electronic materials Co. and Shandong Realforce Enterprices Co. The materials are made of rubber and copper, even though those materials may be harmful to the environment, the trade off is the environmental benefits Electroturf will have by producing clean energy.

2. Electroturf will be manufactured in a factory in Fairfield California. Our factory will be designed with Electroturf all along our factory floor, so that we to will benefit from the energy savings of our product. The salt will go through a polarizing process using positive and negative charges; the structure of their molecules will become more stable and become more efficient. These crystals will go into the rubber covering and backing. There the crystals will be connected with the copper wires that will carry the energy and the male and female connectors that will also be added. Then it will be packaged in units of 100 3x5ft.slabs, which is the norm for subfloor products.

3. Electroturf will be made in our factory in Fairfield. From there we will transport our product to the consumer.Our trucks will use bio diesel that will not pollute the air. Piezo Power will create jobs for many people that are unemployed. There will be jobs for loading, unloading, and driving. Piezo Power will try it's best to keep a promise of a clean environment.



4. The product uses organic material making the components harmless to the consumer. It will either be implemented under the consumers flooring or on top, according to their preference. Electroturf will only take the floor space; the battery will be the only thing taking up space. Once the consumer buys our product the only thing they have to do is install it just the same as any other subflooring. It's simple enough to do it yourself, but you can still hire contractors to install Electroturf. It will help factories and other business lower their carbon footprint and their energy bill. The use of Electroturf is simple, all the consumer has to do is walk on it and energy will be created and stored.

5. The Rochelle crystal is an ionic salt and thus the crystal is harmless to the environment. The other materials will be recycled via our company. This will be done through our return policy, which allows consumers to return broken or defective subfloor tiles and receive a discount price on new replacement tile(s). This recycles our product decreasing the amount of resources needed for manufacturing and at the same time offering a cheaper replacement for current customers. If our consumer decides to dispose of the materials without our help then the Rochelle salt crystal will be harmless to the environment. Ideally the consumer will dispose of Electroturf through us, to truly reduce the consumers' "carbon footprint".

conclusion

Piezo Power is ready in making cleaner energy with Electroturf. Piezo Power has the potential of becoming a profitable company. We plan to break even by the third and fourth year. The plan shows that an initial investment of $4 million will be worth $16 million in five years. By the fifth year Piezo Power will be a $72 million company. Our profit margin by the fifth year will be 16% that is continually growing. This is because electrical prices are annually increasing 5.5% which respectfully will increase the demand of Electroturf. That means the average 17watts per step will become more valuable over the years. This is the reasoning behind us raising our prices from $2250 to $2500 by the fourth year. Piezo power will become a prosperous company. "Energy, just a step away."

Piezo Power is confident it will grow into a prosperous company, providing cleaner energy.

remember

#1 company to invest in because Piezo Power has the most potential to become profitable.

72 million dollar company by the 5th year.

16% is our projected profit margin that will continue to grow.

4 million dollar investment, that is projected to be worth16 million dollars by the 5th year.

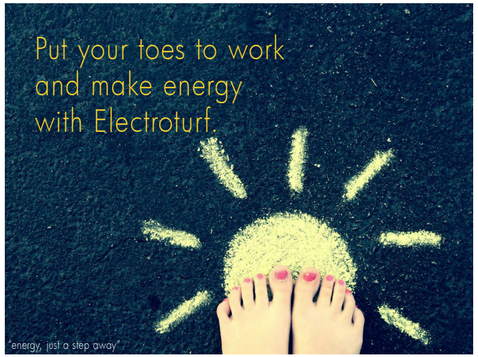
2013 Piezo power will breakeven and start paying investors back.

17 watts of of electricity will be harvested on average per step.

5.5% average increase of electricity prices per year, increasing the value of Electroturf.

The average person generates 70 watts per step, why not convert that into cash with Electroturf

"energy, just a step away"



"energy, just a step away"

Energy, just a step away.