



2009

# Going Green in Belmont

*Prepared by the students of  
BUS 2216*

*School of Business and  
Management*

*Notre Dame de Namur  
University*



## **“Going Green in Belmont” Survey**

The students of the School of Business and Management, Notre Dame de Namur University, conducted a survey regarding the “green” practices adopted by Belmont homeowners, as part of the course titled Business Analysis using Spreadsheets. Besides enhancing student learning of data analysis, it gave them an opportunity to work in collaboration with the City of Belmont. Data from 217 Belmont homeowners was collected and analyzed by the students. The survey results are presented in this report. The students would like to thank the people of Belmont for their time and support.

### **Student Contributors:**

Richard Aicardi	Kayton Nimmo
Hazel Atangan	William O`Shea
Blythe Bulkin	Philip Sam
Claudette Cagaoan	Marcel Sanchez
Nicholas Casagrande	Aaron Sommer
Lisa D`Amico	Lauren Sova
Jennifer Dreessen	Kate Takahashi
Cameron Foss	Caitlin Torres
Chandara Heng	Neha Upadhyaya
Jonathan Hernandez	Andrea Van Den Berg
Anne-Marie Kwan	Emmanuel Vazquez
Carli Leary	Christy Wiens
Carlos Lopez	Jonathan Yerena
Douglas Maguire	Christina Zigliotto

### **Faculty Advisor:**

Sujata Verma Ph. D

## Table of Contents

I. Introduction	4
II. Attributes	5
III. Survey Results	
1. I Conserve Water	9
2. I Conserve Electricity	12
3. I Recycle and Re-use	15
4. I Properly Dispose-Off Hazardous Waste	18
5. I Contribute to Cleaner Air	20
6. I Follow Healthy and Environment Friendly Practices	23
7. I Buy Food from Local Farmers' Markets	26
8. I Compost Kitchen Waste and Use its Fertility	30
9. I Have Installed Solar Panels	32
10. What Has Prevented you from Installing Solar Panels	35
11. Would You Consider Solar Panels if Rebates were Offered	36
12. Profile Respondents Who Have Installed Solar Panels	38
IV. Summary and Conclusions	43

# **I. Introduction**

According to the US Census Bureau, California is one of the most populated states in the nation and has added more than 500,000 residents each year since the 2000 census. California's population is expected to grow to more than 42 million by 2020. Consequentially, the exponential population growth and development leads to a faster depletion of our natural resources. While on a global scale it may be intuitive to most people the importance of an eco-friendly lifestyle, the concept of sustainability can sometimes be misconstrued.

From our research, sustainability or "living green" has to do with taking from the earth only what it can provide indefinitely; therefore leaving future generations nothing less than we have access to ourselves. "Going green" involves living within the limits of the resources of the Earth, understanding connections among economy, society, and environment, and equitable distribution of resources and opportunities. Many cities around the country are "going green" and are working to reduce energy use and pollution. These efforts by local city governments are not only helping reverse the effects of climate change, but also are reducing energy costs. By the city of Belmont joining the green movement, Belmont will be setting a good example for residents about the importance of environmental issues.

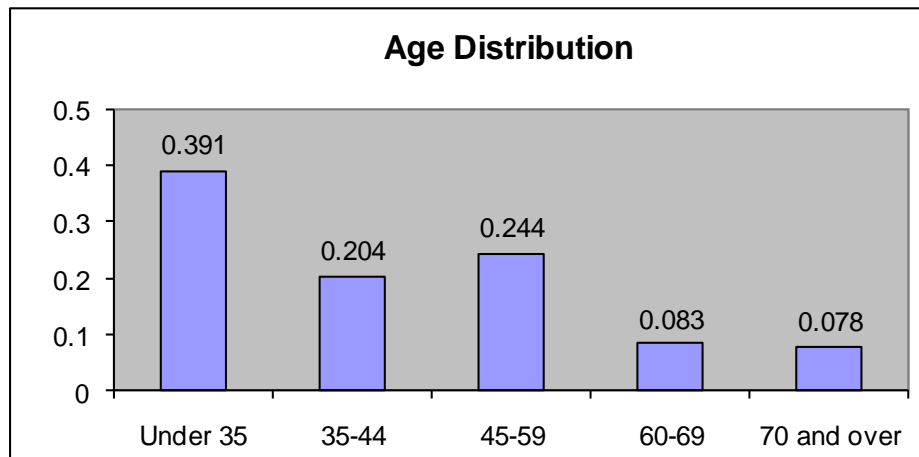
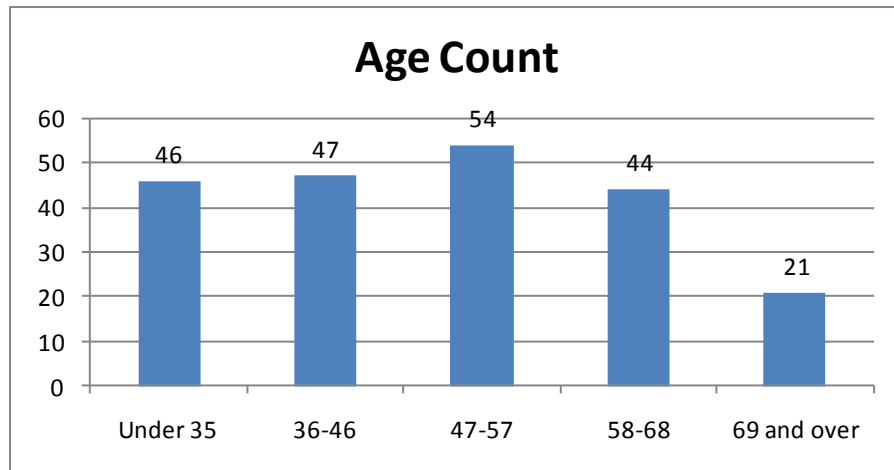
The purpose of the survey is to study the environment-friendly practices followed by Belmont homeowners. The survey is comprised of 9 questions that address such topics as water conservation, recycling, and solar paneling. The Belmont homeowner is asked to respond from "never" to "always" participating in the stated "green practice." The last part of the survey addresses solar paneling, suggesting if there was a reward system intact, such as government tax breaks, would that serve as an incentive. By analyzing the results of the surveys, it allows us to have a clearer understanding as to what extent Belmont residents contribute to the sustainability of our environment.

## II. Attributes of the Survey Population

A total of 217 residents of the City of Belmont participated in the written survey on “Going Green.” The following is a look at some of the following attributes of the survey population.

### AGE DISTRIBUTION

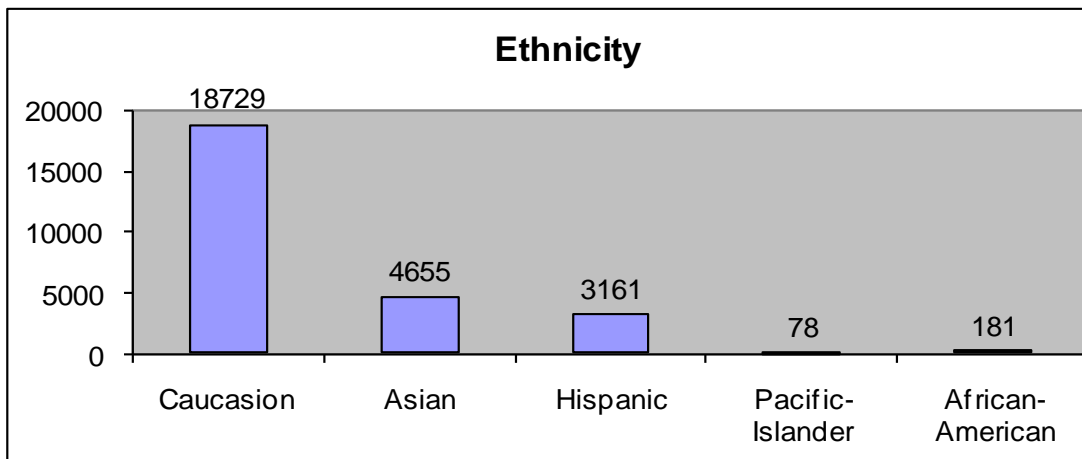
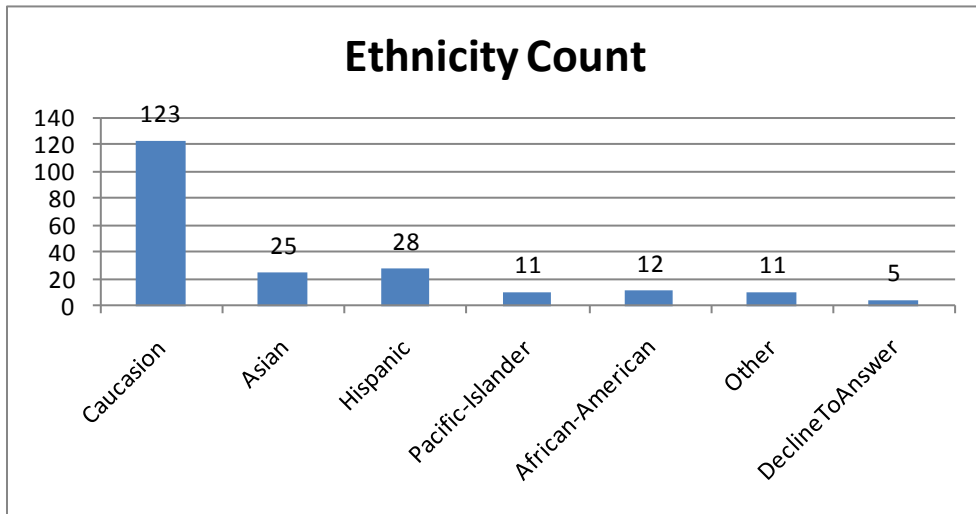
The graph below reveals the age distribution from the survey participants. People between the ages of 47-57 took the survey the most. While the people who were 69 and over took the survey the least. Judging from the result most of our respondents are less than 69 years old.



The graph above reveals data taken from the government census. The following shows the age distribution for the city of Belmont. There is a high percentage of people who are under the age of 35 and a low percentage of people older than 60. Relative to the graph above the data is not correlated. This can be for a couple reasons: where we went to survey people, at what time, and our own intentions. There were too many factors we could not account for to be able to ideally relate these two graphs other than what we might have expected.

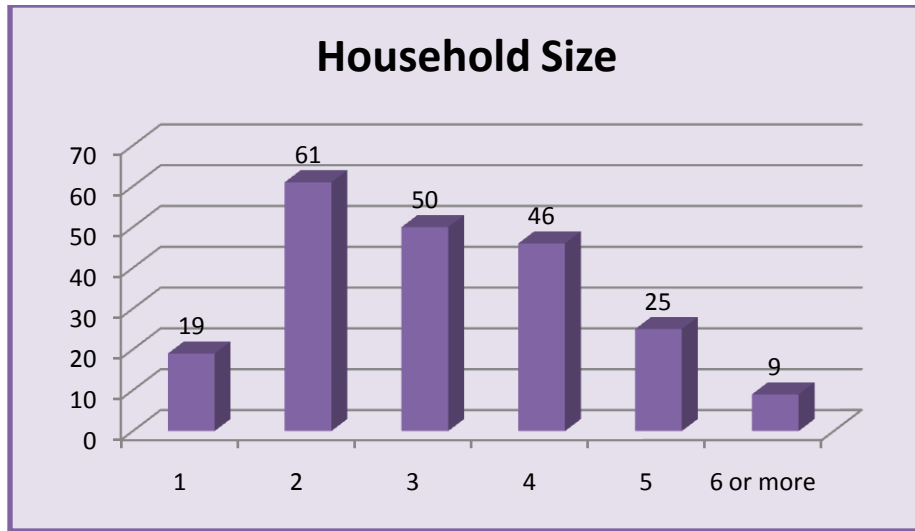
# ETHNICITY

The graph below depicts the ethnicity count for the total amount of people who took the survey. From the graph Caucasians took our survey the most at a count of 123. While the rest were similarly close. What was surprising is the number of people who declined to answer the question which is relative close when compared to people who answered.



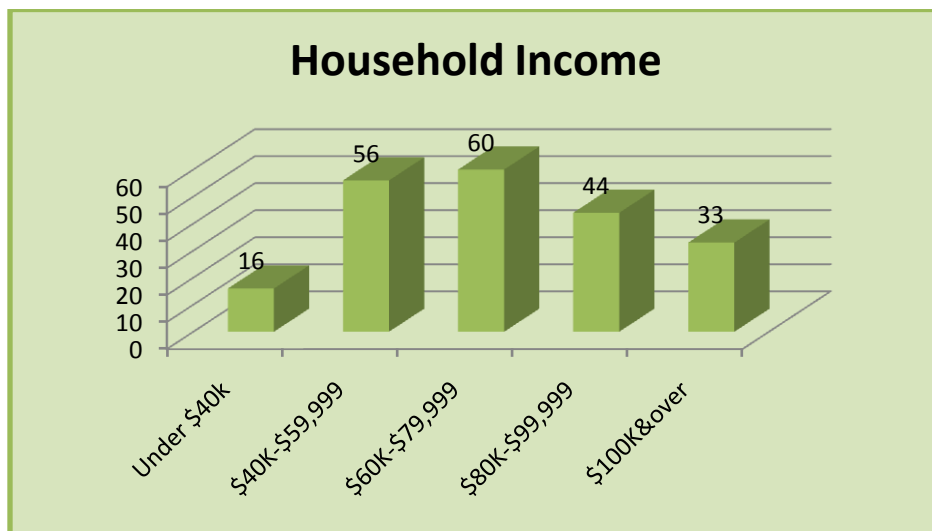
The graph above illustrates data taken from the government census regarding the ethnicity background for Belmont. If you compare the two graphs, the one from our survey and census, you can see the correlation between the two. Ideally since there are a lot of Caucasians who live in Belmont we would expect our data set to be true as well. This was true in our case because the ethnicity of who took the survey the most were Caucasians. That was then followed by Asians and Hispanics.

## HOUSEHOLD SIZE



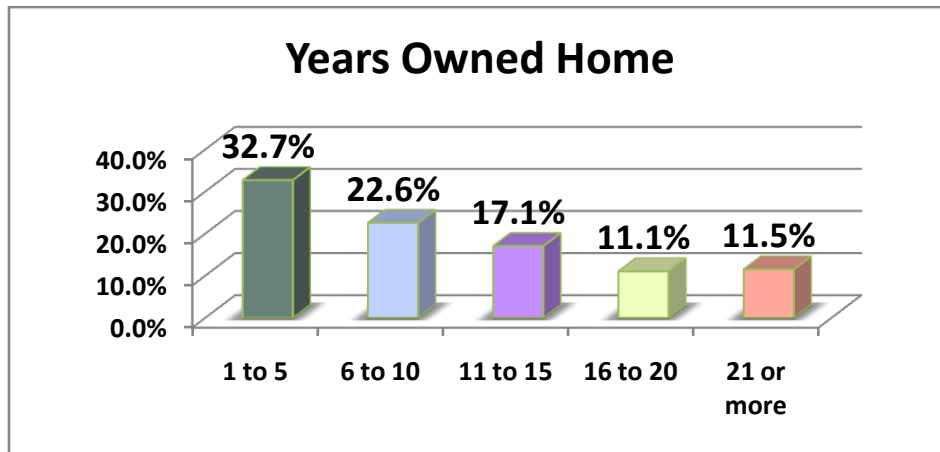
Of the 217 homeowners of Belmont, CA the majority of households have between 2 and 4 people living within the household with 61 people or 28% answering 2 people, 50 people or 23% answering 3 people and 46 people or 21% answering 4 people. Since our data shows that the majority of households have between 2 and 4 people and the median size according to census.gov is 2.35 people per household. Our data shows that the majority of households have between 2 to 4 people. The data from census.gov shows that the median size of households in Belmont is 2.35 households. Thus we can see that our data population is relatively equivalent to the real population of Belmont.

## TOTAL HOUSEHOLD INCOME



In terms of household income, 56 people or 25% reported an income level of \$40,000-\$59,999, 60 people or 28% reported an income level of \$60,000-\$79,999, and 44 people or 20% had an income level of \$80,000-\$99,999. The majority of the people we have surveyed answered that they have an income of \$60,000 to \$80,000 which is similar to the statistics found on census.gov, stating that the median income in Belmont is \$80,905. Thus we can predict that we have collected a relatively accurate sample of the population of Belmont.

## YEARS OWNED HOME IN BELMONT



The majority of the residents who took the survey, **32.7%**, have owned their home from 1 to 5 years. Only **11.1 %** of the residents have owned their home 16 to 20 years.



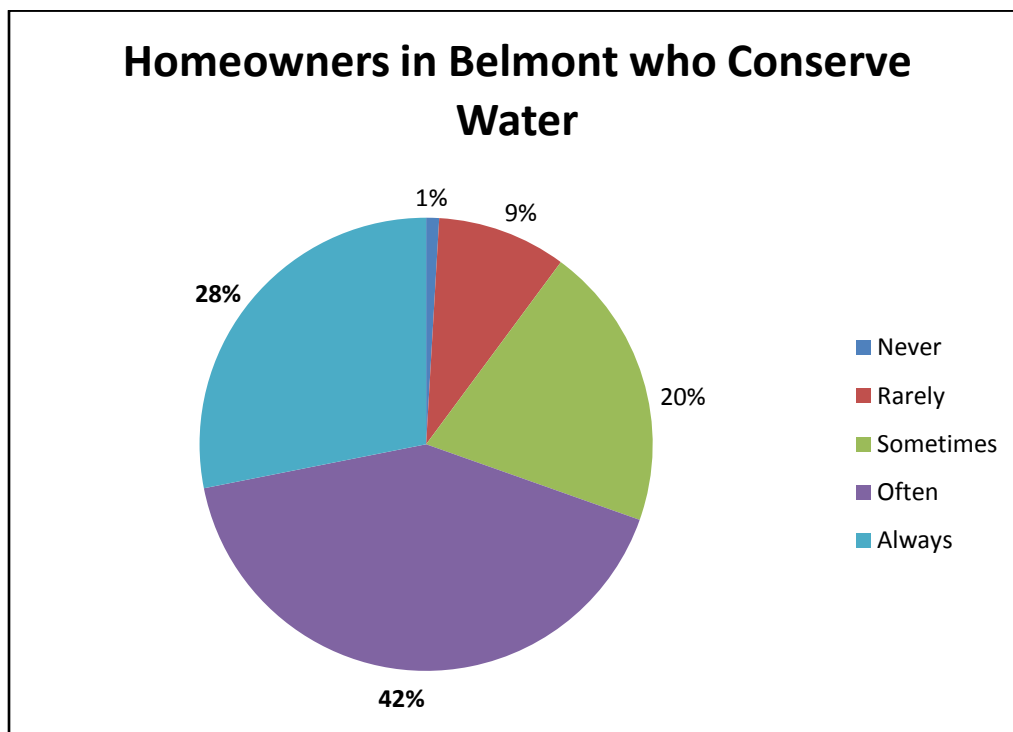
### III. Detailed Analysis of the Survey Questions

#### 1. I conserve water

##### Why is it relevant?

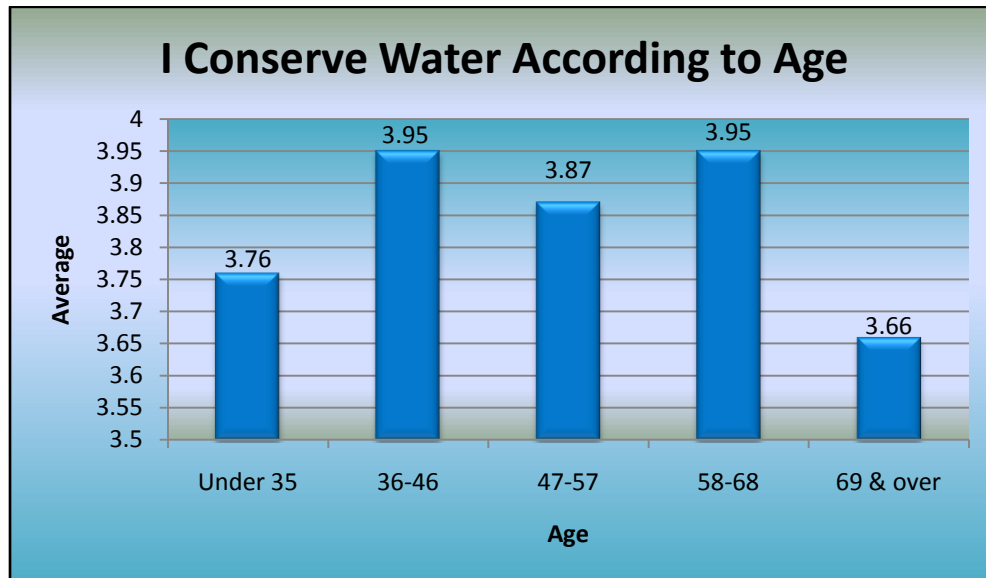
Since we are researching and finding out how homeowners in Belmont are using environmentally-friendly practices, the results of water conservation is relevant. **We asked if they conserved water by taking steps like fixing leaky taps and sprinklers, using low flow toilets, taking shorter showers, running dishwashers and washing machine only with full loads, and by watering the yard in mornings and evenings.** It helps us to see the number of homeowners in Belmont who always, often, sometimes, rarely, and never conserve water to determine if they are going green.

##### Survey Results



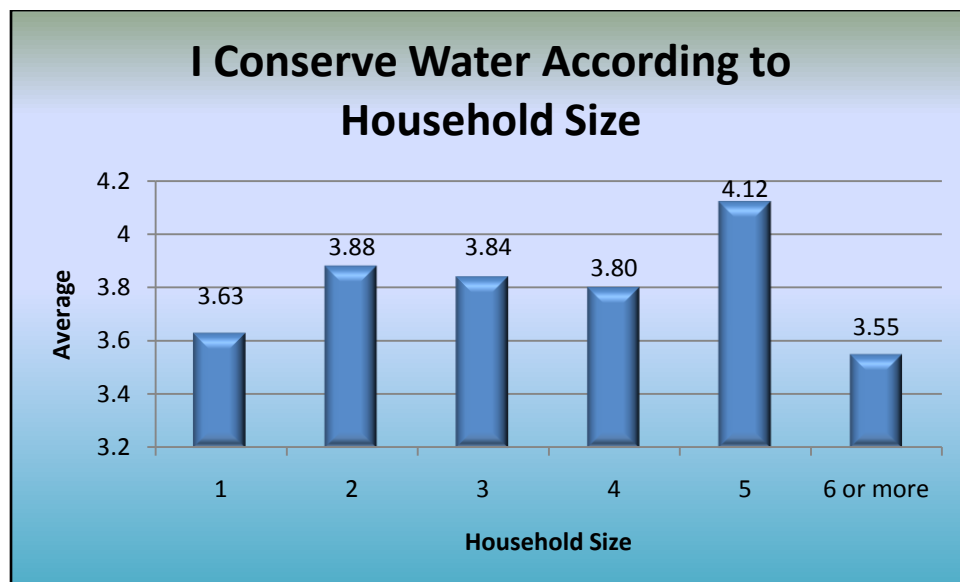
The graph above shows the overall homeowners in Belmont who conserve the most and the least amount of water. Most homeowners in Belmont said that they often conserve water, which is 42% of all homeowners. Next, are the homeowners who always conserve water and they accounted for 28% of all the homeowners. This shows that 70% of homeowners in Belmont often or always conserve water. Only one percent of homeowners do not conserve water which is very little compared to the people who conserve water on a regular basis. The overall average of homeowners in Belmont is 3.86, which reinforces that Belmont residents are conscious about reducing their water consumption.

## Correlation between homeowners age and their level of water conservation



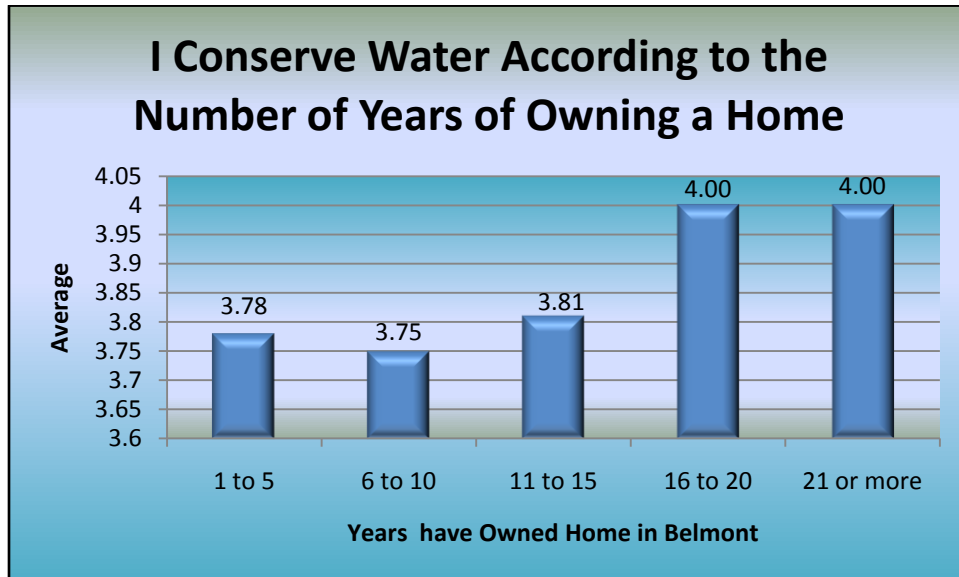
According to the graph, the respondents in age groups of 36-46 years and 58-68 years conserve the most water. This means that within these two age groups people stated that they frequently conserve water. However, the respondents in age group of 69 years & over conserve the least amount of water. This age group stated that they every so often or rarely conserve water. This statement was a surprise because we thought that older people would be conserving the most water.

## Correlation between household size and their level of water conservation



According to the graph, people with a household size of 5 conserve the most water. The average for this household is 4.12, which mean that more people often conserve water. The household size that conserves the least amount of water is 6 or more. The average for this household is 3.55, which mean that more people occasionally conserve water. This is surprising that a household of 5 people conserves more water than a household of 6 or more people.

**The correlation of the number of years a person has owned a home in Belmont and the level of water conservation**



According to the graph, people who have owned their home for 16 to 20 years and 21 or more years conserve the most water. Their average is 4.00, which means that they often conserve water. However, the residents who have owned their home for 6 to 10 years conserve the least amount of water. The average for this group is 3.75 which is close to the people who often conserve water.

According to the data collected of the Going Green in Belmont survey, the people who conserve the most water are middle aged, with household size of five people, and people who own their home for 16 or more years.

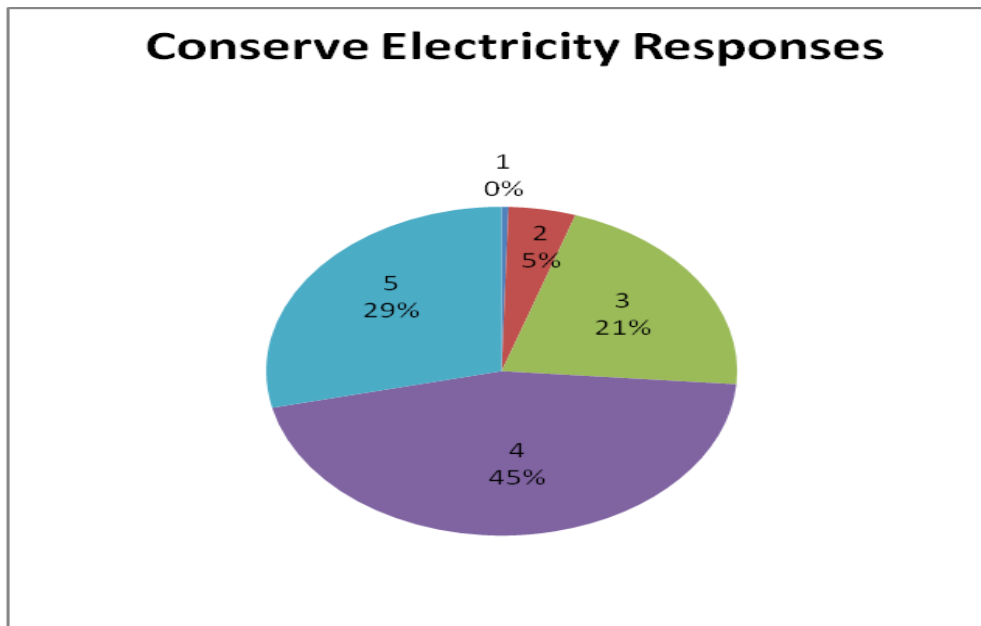
## 2. I Conserve Electricity

### Why is it relevant?

In order to come to a better conclusion as to whether residents would be interested in solar panels it was imperative for the survey to measure how interested owners in Belmont home are in conservation of electricity. Solar panels are one of the more high scale ways to conserve electricity by generating power in more ecological “Green” ways. Therefore, in order to measure Belmont residents’ ecological interest in conservation of electricity it is necessary to see to what extent people show concern for conservation and the measures the population has taken thus far to do so. **We asked if they conserved electricity by taking steps like using energy efficient appliances and windows, fluorescent light bulbs, turning off computers, lights etc. when not in use, turning down the thermostat to 65, and home insulation.** Even small measures are significant as it saves energy.

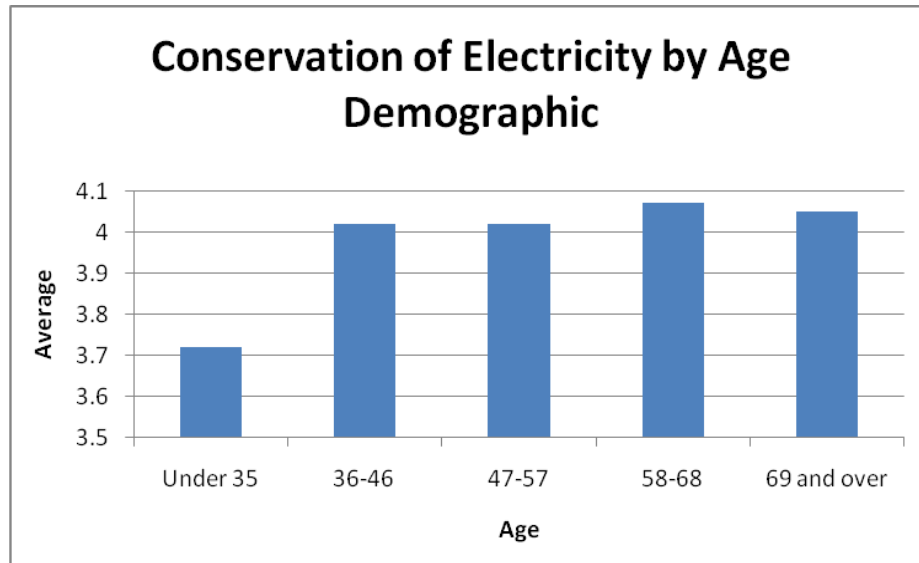
### Survey Results

The pie chart below gives an overall measure of electricity conservation by Belmont residents.



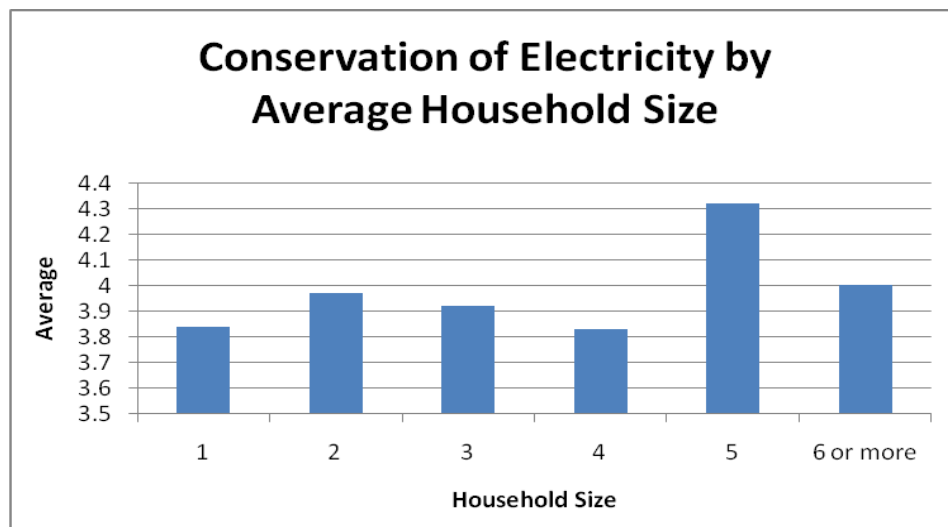
According to the above pie chart, 45% of the respondents checked box no. 4 for statement no. 2, "I conserve Electricity". This shows that majority of respondents often conserve electricity. 29% of the total respondents stated that they always conserve electricity. Only 1 individual stated that he/she never conserves electricity. Thus, majority of Belmont respondents have made an effort to conserve electricity and are very conscious about energy efficiency. The overall average response to this survey question was 3.97, which reinforces the conclusion that Belmont residents believe in conserving electricity.

## Conservation of Electricity by Age demographic



The graph above demonstrates the likelihood of residents to conserve electricity based on their age. The graph measures how environmentally concerned different age groups are. The age group that conserves electricity the most is fifty-eight to sixty-eight years of age and the age group that conserves electricity the least is under thirty-five. The populations between the ages of thirty-six and sixty-nine and over seem to have fairly similar degrees of interest in conserving electricity. Therefore, it is likely that the younger populations are not as concerned because they may be under financial and time constraints that hinder their ability to do so.

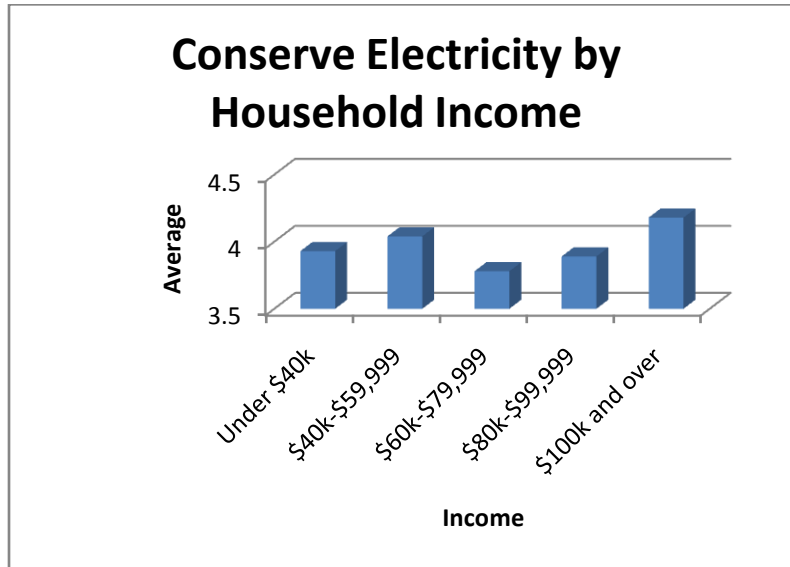
## Conservation of Electricity by Average household Size



The graph above shows the extent to which different household sizes conserve electricity. It demonstrates that households over five people in size conserve electricity more than households under five people in size. Larger households are likely to conserve electricity on a larger scale in

an attempt to cut down the cost of their power bill, which can be very expensive in large households. On the contrary, single persons conserve the electricity the least.

### Conservation of Electricity by Household Income



According to the above chart, respondents whose total household income were \$100,000 and over were very conscious about conserving electricity, least conscious were individuals whose household income was \$60,000 to \$79,999. Respondents whose household income was \$40,000 to \$59,999 were also careful about conserving electricity. The incentives of these different income groups to conserve electricity vary. Lower income groups conserve electricity to high degree in an attempt to save money. In contrast, higher income groups conserve electricity because it is the latest trend and is considered to be a posh activity. Therefore, doing energy audits appeals to both sectors of the economy because cutting electricity costs has incentives and benefits for both groups. However, the middle class is the least concerned about conservation of electricity. Since these middle class groups also make up most of the population their minor lack of concern can pose a barrier when trying to introduce new green energy processes into the community.

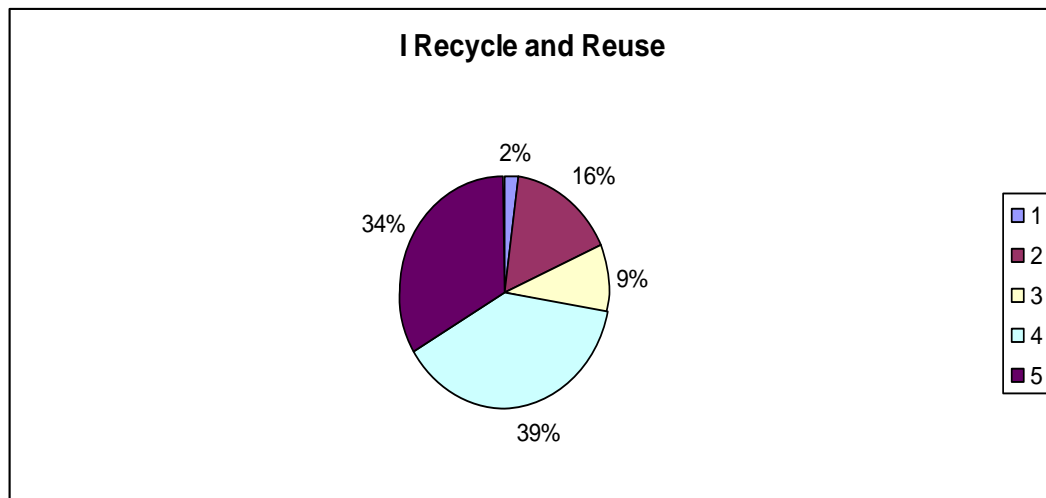
### 3. I recycle and reuse

#### Why is this relevant?

This is relevant because in this survey we researched environmental friendly practices. We found that recycling and reusing is important in going green. **We asked if people in Belmont recycle and reuse, by following steps like using cleaning rags instead of paper, cloth bags for grocery, not using disposable items and by not buying products with excess packaging.** This information would help determine if going green and implementing solar panels would be successful in the city of Belmont.

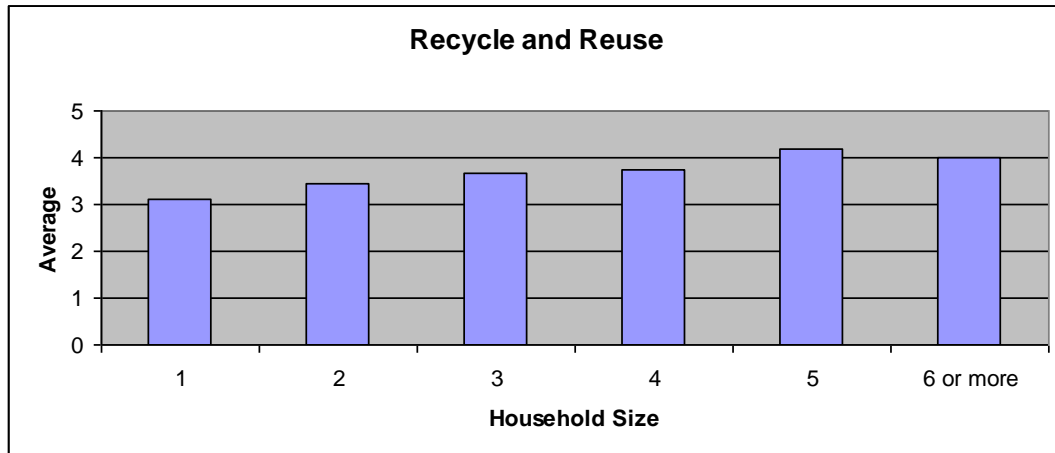
#### Survey Results

We surveyed 217 homeowners of Belmont and found that the average score for question 3 was 3.66 out of 5. This is good for our report because the people of Belmont do care about going green and do want to contribute to environmentally friendly practices.



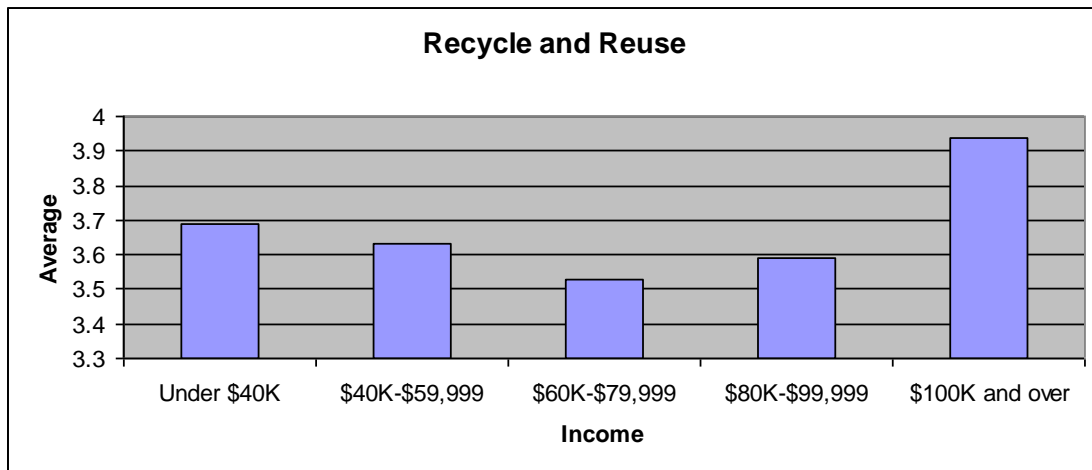
The above graph shows the distribution of people in Belmont who recycle and reuse. The answers are ranked from numbers one to five. One being never, two being rarely, three being sometimes, four being often, and five being always. Most of the data we collected was between the range of four and five, which signifies that the people of Belmont believe in recycling and reusing. We found that 39% of Belmont homeowners often recycle and reuse, whereas 2% never recycle.

## Correlation between household size and the percentage of people who recycle and reuse



The above graph shows that on an average the more people to a house the more they recycle and reuse. We found that most people who recycle and reuse have five people to a house. This is relevant because the higher the household size the more likely going green policies will progress throughout the future. An added benefit includes children who will learn how to use environmentally friendly practices from their parents.

## Correlation between household income and the percentage of people who recycle and reuse

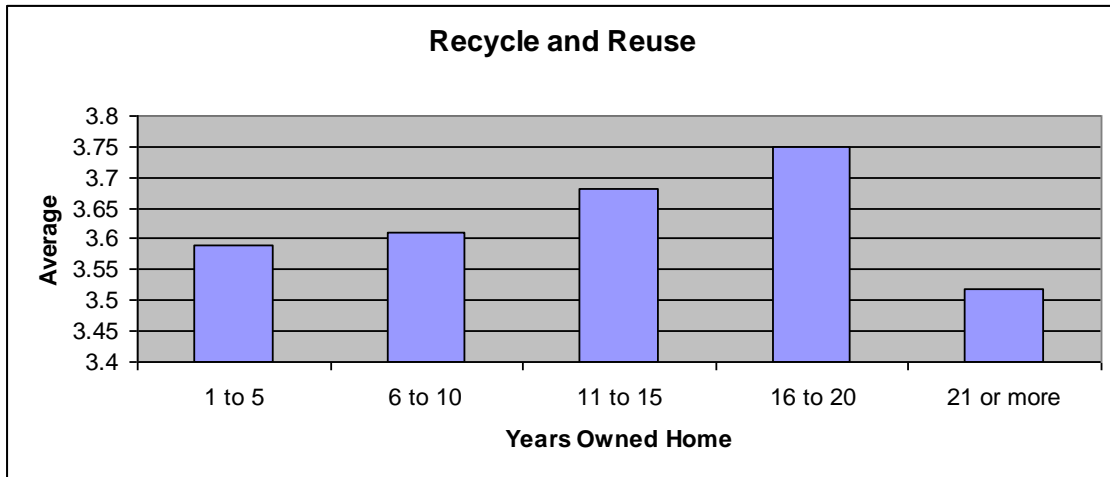


In the above graph we can see that the homeowners who recycle and reuse the most make an income of \$100,000 and over. In correlation to household income, people who recycle and reuse have more resources available due to the amount of money they have. Going green has become popular throughout the years, and people with money are highly influenced by



what's in style. As a result, it is more probable the citizens of Belmont will want to use recycling and reusing techniques to improve the environment.

### **Correlation between years owned home and the percentage of people who recycle and reuse**



As we can see in the above graph most homeowners in Belmont have owned their home for 16 to 20 years. The correlation between years owned and recycling and reusing is that the more years a person owns a home, the more likely they are to recycle and reuse. Belmont homeowners, who have owned their home for a longer amount of time, 16 to 20 years, are expected to permanently settle down in Belmont. Making the homeowners prone to build an environmentally -friendly home compared to those who have owned their home for a shorter amount of time.

According to the data collected in the Going Green survey, the people who recycle and reuse the most are people who have a higher income, larger household and have owned their home between 16 to 20 years.

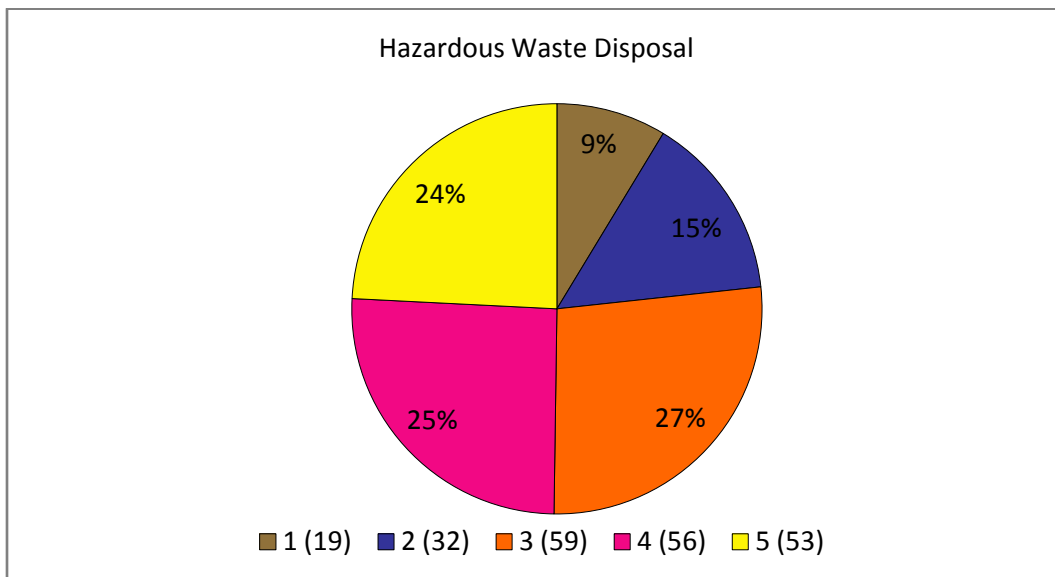
## 4. I properly dispose-of hazardous waste

### Why is this relevant?

We asked if Belmont homeowners disposed of Household Hazardous Waste (HHW) including pesticides, batteries and old computers and other electronic equipment. In the process of going green, properly disposing of HHW by taking it to hazardous waste disposal centers is important. People are more likely to “go-green” if they are cautious about disposing HHW.

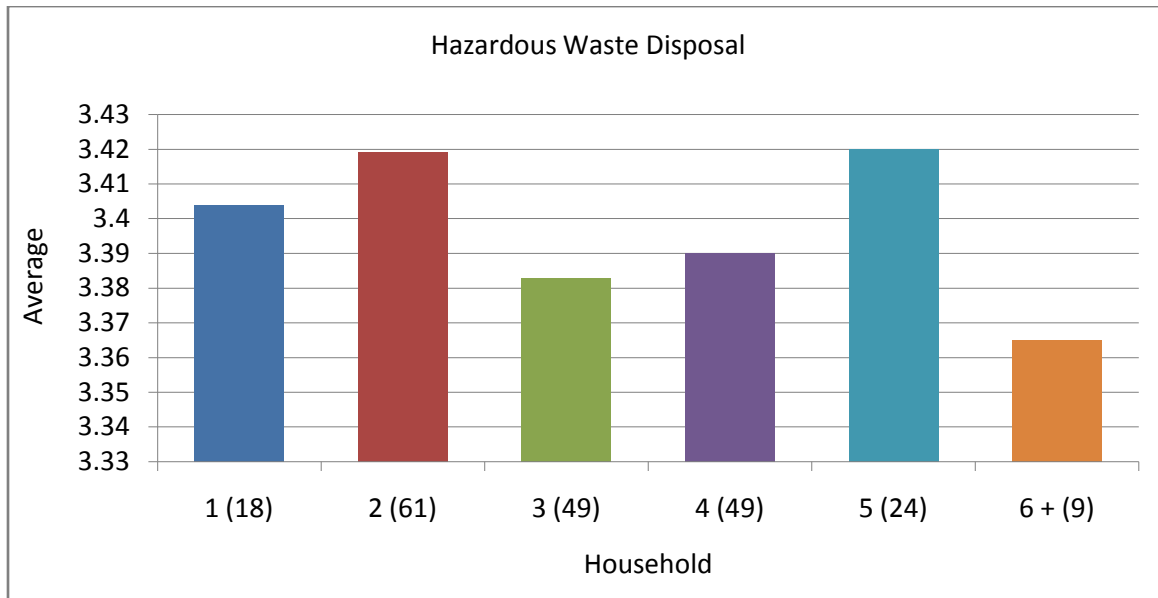
### Survey Results

From the 217 Belmont homeowners surveyed, NDNU students discovered that more than the average person disposes HHW. The overall average score of 3.38 shows that Belmont homeowners are conscious about proper disposal of HHW. This is reinforced by the chart given below which shows 48% of respondents scored 4 or 5 on the survey question. 9% of the people said that they didn’t dispose-off HHW properly.



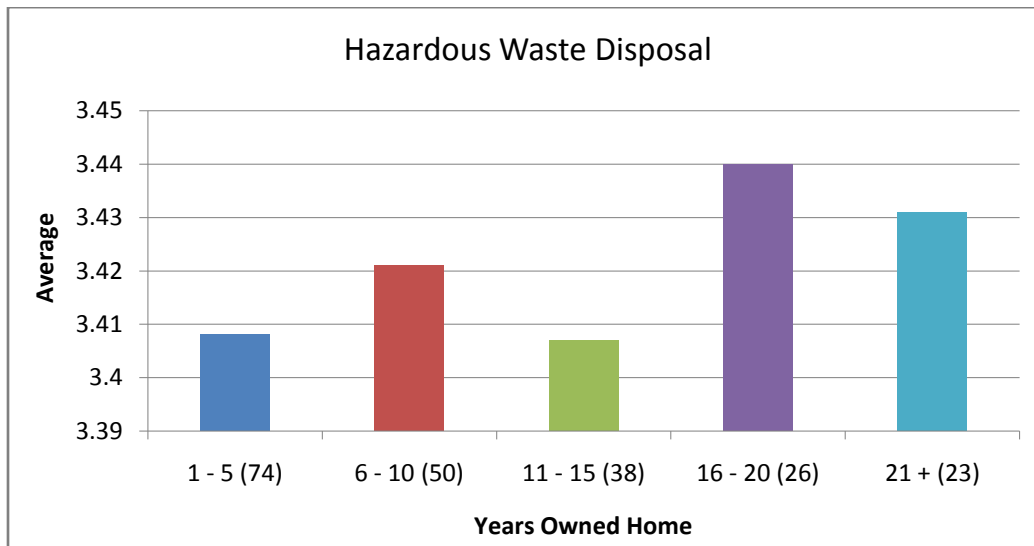
59 people out of 216 of the population, or 27%, dispose HHW “sometimes” (3), but are not active participants. There is only a six-person difference between disposing HHW sometimes (3) and disposing it often (5). 53 (24%) of Belmont citizens dispose HHW “often (5).” The majority of Belmont citizens dispose HHW more than sometimes. Most HHW participates are likely to base their survey answer solely on disposing municipal solid waste (MSW), which is often found in the trash. There is also a chance that Belmont citizens are unsure about process of disposing HHW.

## Correlation between Household Size and the disposal of HHW



Household size is important to the process of disposing HHW. The stereotype is that HHW is harder to manage as the household size increases. In the above graph, the results show the opposite. Houses with two people, who were mostly couples and newlyweds, find time to dispose hazardous waste properly.

## Correlation between Disposing HHW and Years of Owned Homes



Belmont citizens who have owned their own homes for at least 16 years are most concerned about disposing HHW. People who are starting independently or a family have owned their home for less than five years scored lower on this question. Smaller households may not be familiar with the proper way of disposing hazardous waste.

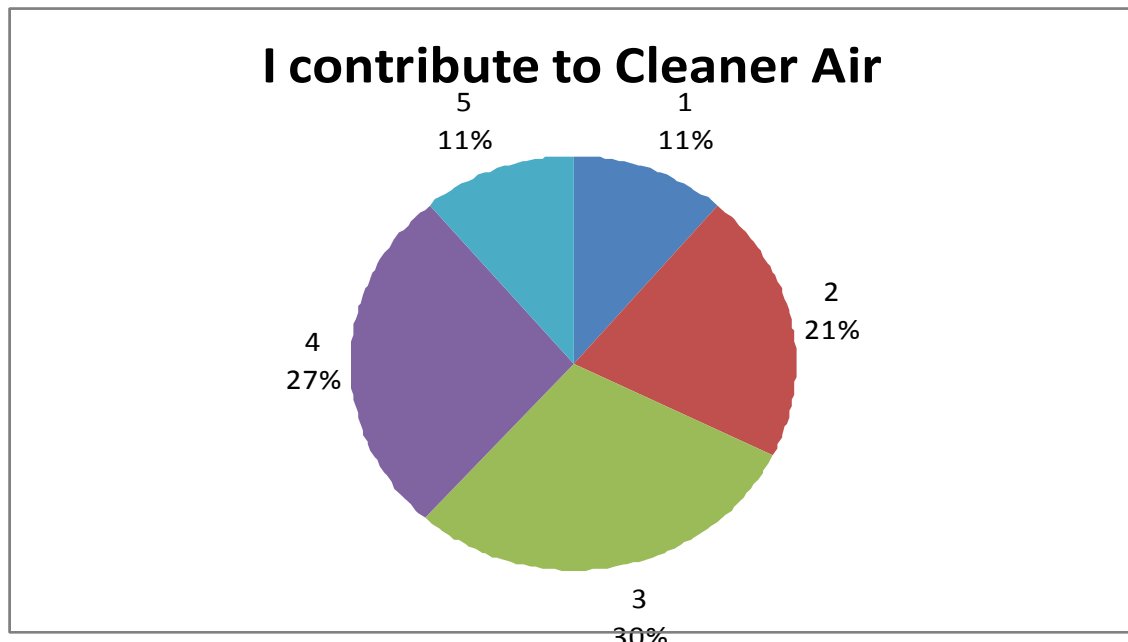
## 5. I Contribute to Cleaner Air

### Why is This Relevant?

This is relevant to our survey because we are trying to find out what percentage of Belmont residents are concerned with doing what they can to help protect the environment. Contributing in maintaining our air as clean as possible is an important aspect of going green and maintaining our environment. Finding out what percentage of Belmont residents contribute to cleaner air will help us better predict if installing solar panels in the City of Belmont will be successful. **We asked if Belmont residents contributed to cleaner air by following steps like owning a hybrid car, and by walking, cycling carpooling or taking public transport whenever possible.**

### Survey Results

We surveyed a total of 217 homeowners of the City of Belmont. The average score on this question that we received from our survey was 3.04 which means that for the most part people are contributing to cleaner air, and therefore, concerned with the environment. This is good feedback because it shows people are willing to help out maintain the environment. These results show that the people of Belmont are willing to help out the environment and will be more willing to install solar panels in their homes.

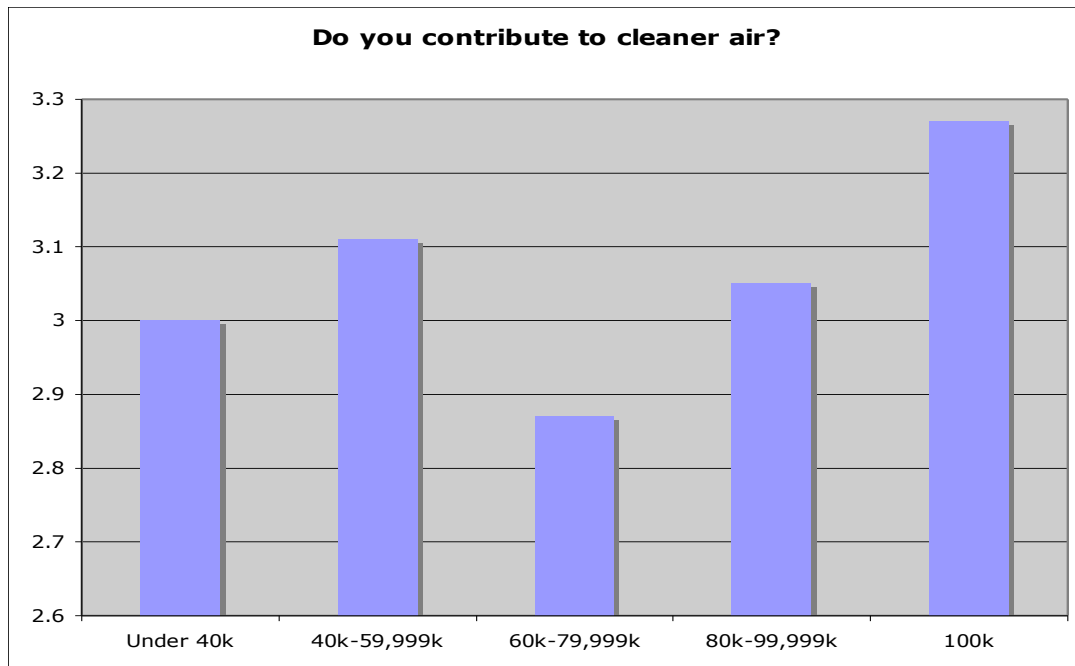


The graph shown above shows the percentage of survey respondents living in the City of Belmont who contribute to cleaner air. The answers range from one to five, with one being never, two being rarely, three sometimes, four being often, and five being always. The feedback that we received shows that thirty percent of our respondents answered 3, which means they

contribute to cleaner air, but only sometimes. We had only eleven percent of our respondents answering one, which means never. We had thirty-eight percent answering that they contribute to cleaner air often and always. These results show that the citizens of Belmont do want to contribute to maintaining our environment.

### **Relationship between Contributing to Cleaner Air and Household Income**

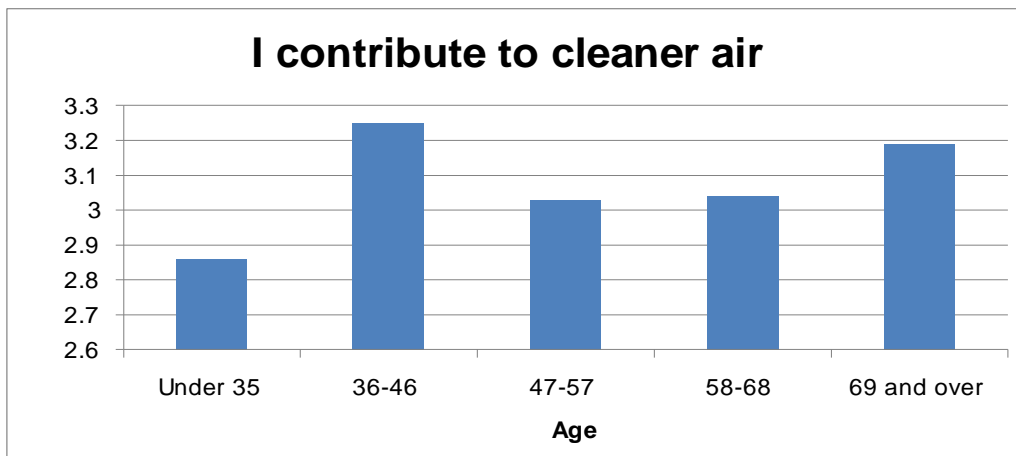
We found out that for the most part the higher the household income the more people contribute to cleaner air, even though we received some high results from the lower income households. This could be because those families with higher incomes can afford to contribute to cleaner air. Sometimes lower income families want to contribute to the environment but it is difficult with other expenses. This is helpful because it shows how money influences decisions that families make and if the City of Belmont can help them with the expenses that come with installing solar panels, they will more willing to do it.



### **Relationship between Contributing to Clean Air and Age**

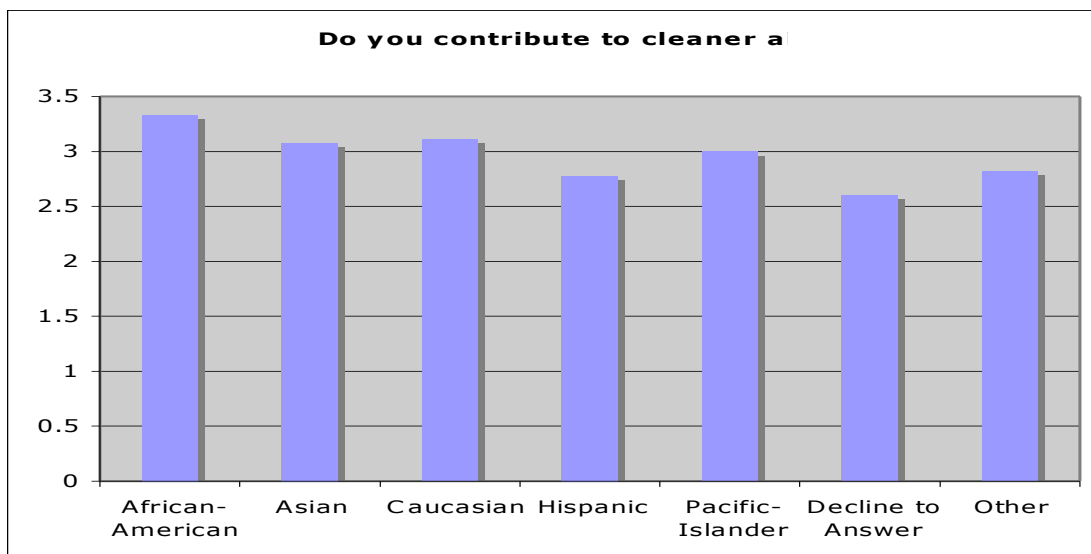
The results on the graph below relate the age of Belmont residents to the amount of concern that they have toward contributing to having clean air. Results varied in the age differences, but we noticed some similarities. We noticed that people that were surveyed under the age of 35, showed the least concern about contributing to cleaner air. People with an age between 36 and 46 years showed the most concern along with those who are 69 years and older. However, people with ages between 47 and 68 showed similar concerns with an average of 3. These results are helpful because we can get a good idea of what age group to target the solar panels. In

conclusion, these results prove that residents of Belmont are concerned about cleaner air. This means that they are good candidates for possibly installing solar panels in their home.



### Relationship between Contributing to Clean Air and Ethnicity

The graph below illustrates the different ethnicities that were surveyed and how their concerns about cleaner air varied. The majority of the participants that were surveyed were Caucasian, 123 of 214 to be exact. Since they were the majority, it was interesting to find that most of them are concerned with the environment and showed interest in helping improve it. However, every ethnic group that was surveyed showed interest in having clean air, so this means that it is a good idea to market the Belmont community with solar panels. If the city is willing to work with the residents and offer certain discounts, we can assume that a lot of the residents will consider implementing solar panels into their house.

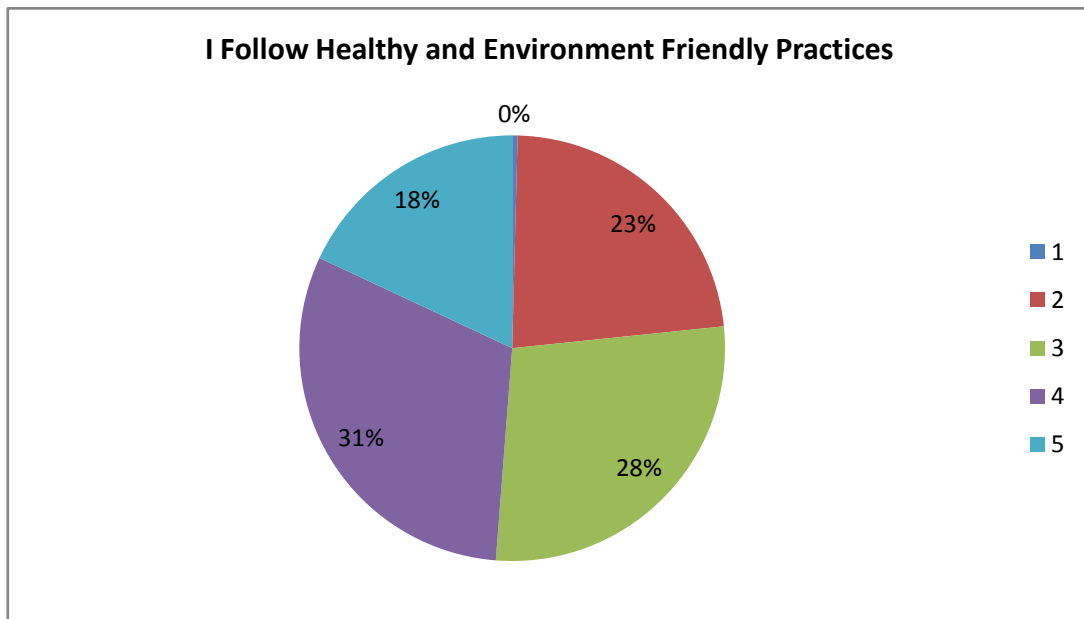


## 6. I follow healthy and environment friendly practices

### Why is it relevant?

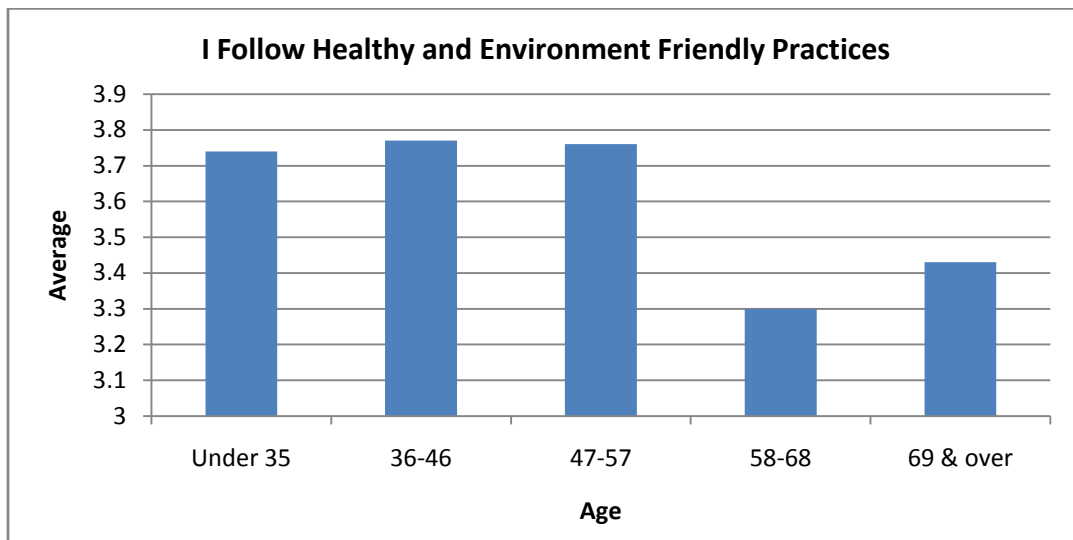
Since we are researching and finding out how many current Belmont homeowners are interested in installing or have already installed solar panels, looking into how healthy and environmentally friendly the homeowners are is very relevant. Being environmentally conscious is closely linked to following healthy practices like eating right. This information will help us to see how interested the community of Belmont is in going “green.” **We asked if the respondents followed healthy and environment friendly practices by taking steps like healthful eating and exercise and using organic cleaning agents.**

### Survey Results



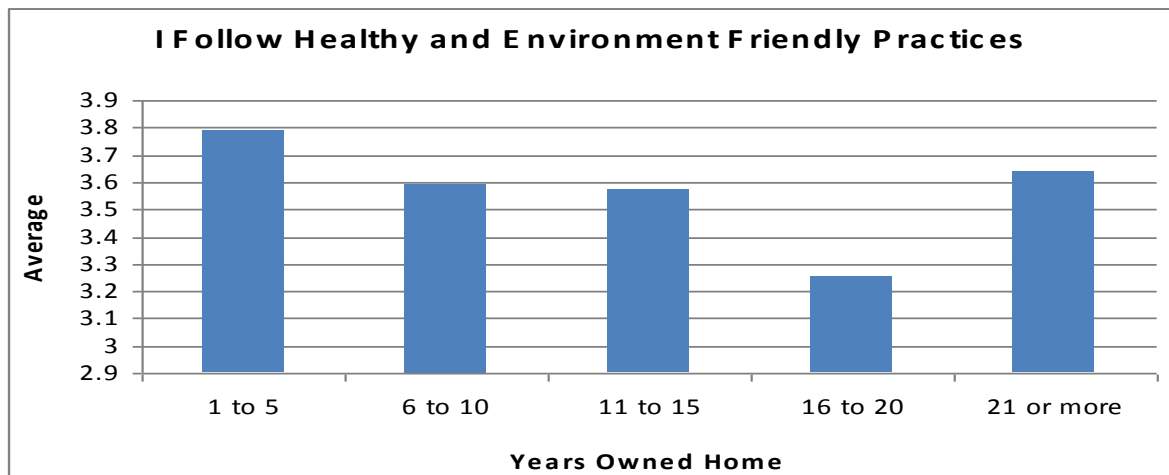
This graph shows the distribution of 217 Belmont homeowners surveyed. The homeowners were asked to rate on a scale of one to five, one being never and five being always, how often they follow healthy and environment-friendly practices. This includes eating healthy, exercising, and using organic cleaning agents. The majority of our respondents, at thirty-one percent, said that they follow these practices often. The next most common rating was “sometimes” at twenty-eight percent. The overall average amongst our respondents was 3.62. This tells us that these Belmont homeowners are health and environmentally conscious.

## The correlation between age and following healthy and environment friendly practices



The graph shows us that people in the age ranges from under 35 all the way to 57 follow healthy and environment friendly practices most of the time. Each of these three categories had very similar averages, all well over 3.7. However, there was a great drop off in the average for the 58 to 68 age group. This was the age group least concerned with healthy and environmentally friendly practices. This could be due to fact that older people may not be getting much exercise.

## The correlation between number of years owning the home and following healthy and environment friendly practices



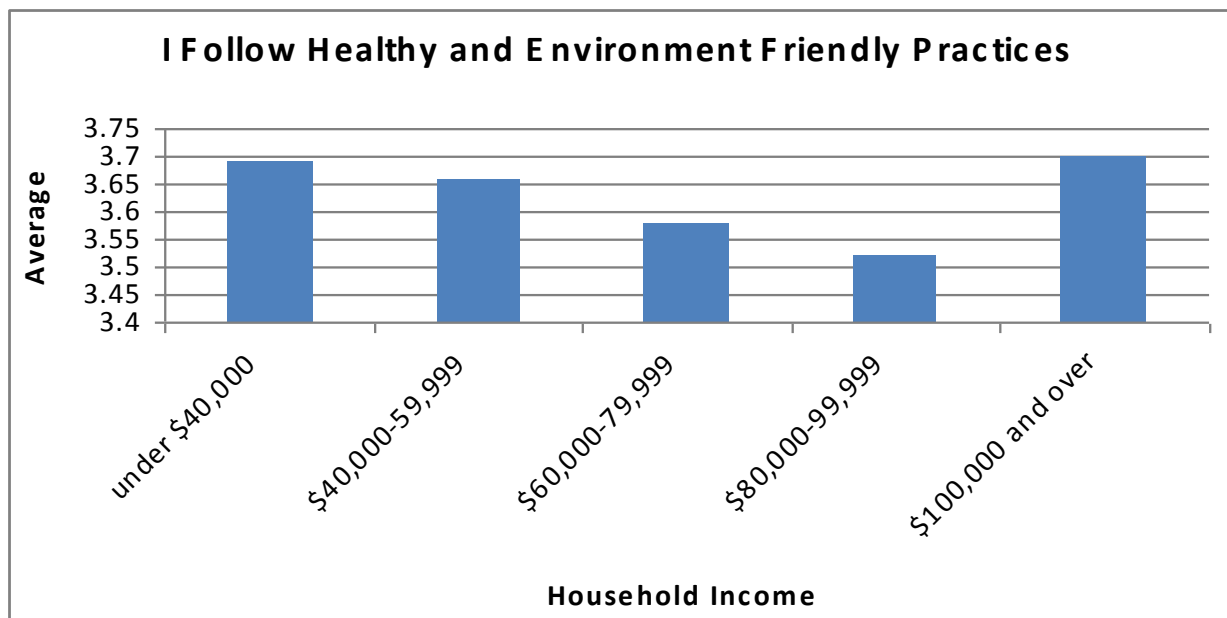
After analyzing the survey results, we found that the people who had owned their homes for the least number of years were the most health and environmentally friendly. The next highest category was the group of people who have owned their home the longest, 21 or more years. The



people who have owned their homes from 16 to 20 years are the least concerned with health and environment friendly practices.

### **The correlation between total household income and following healthy and environment friendly practices**

We found that the households with the greatest amounts of income seemed to be the most concerned with following healthy and environment friendly practices with an average of 3.7. The next most health and environmentally friendly group happened to be the households with the lowest combined incomes of less than \$40,000. They registered just slightly lower with an average of 3.66.



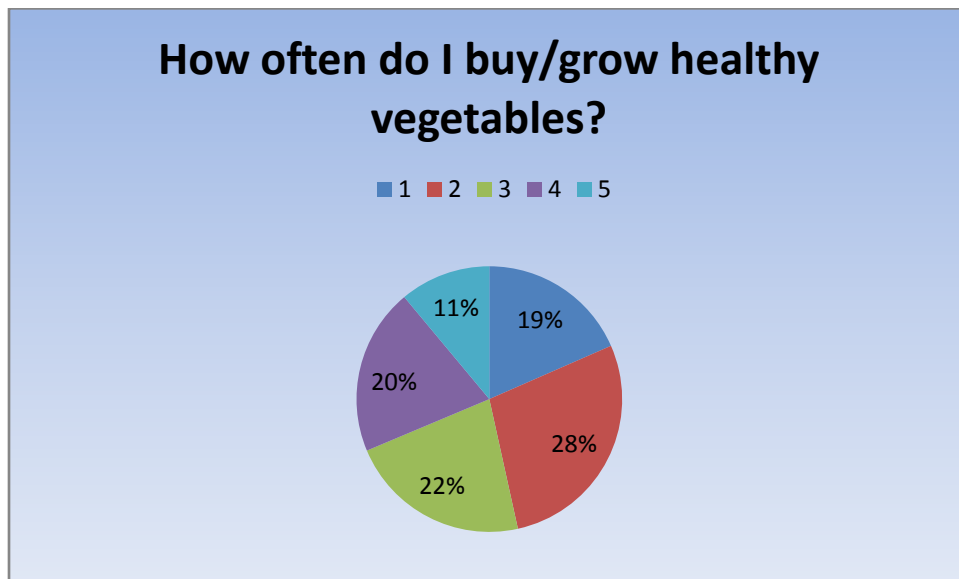
## 7. I buy food from local farmers' markets and /or grow a vegetable garden?

### Why is it Relevant?

Knowing how likely residents of Belmont are to buy food from local farmers' markets/grow a vegetable garden is important because it enables us see what kind of people reside in Belmont. Are the people that reside in Belmont people that buy produce from anywhere, or are they more conscious of what they buy and how they use their money? Generally, buying vegetables from a farmer's market is less expensive than buying from a supermarket. The vegetables are fresher and grown nearby. Some other places contain pesticides which do harm to the environment. Finally buying from local farmers helps both the farmers make income and the less wealthy to be able to eat healthy. Information about the spending habits on healthier vegetables may be highly useful if we want to go green in Belmont.

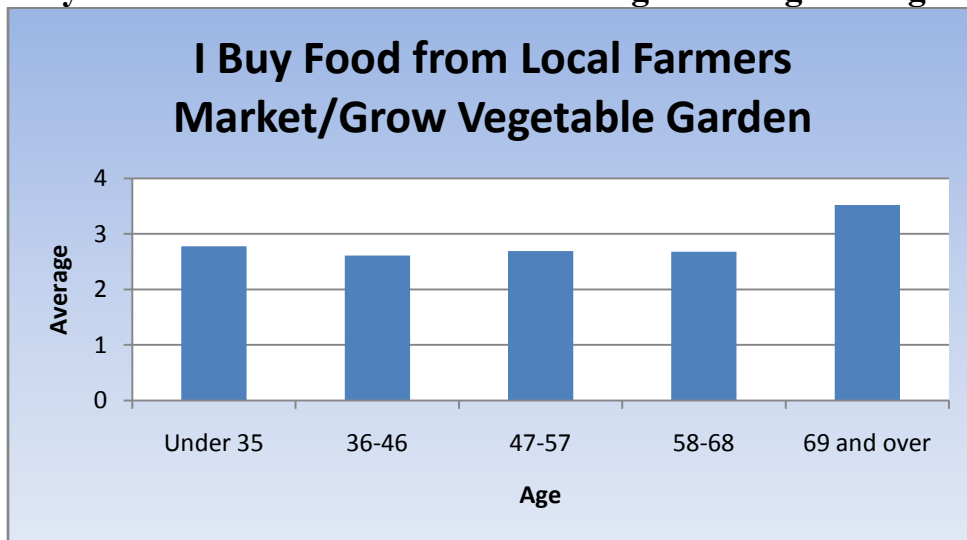
### Survey Results

The overall average for Belmont residents that buy food from local farmers or grow a vegetable garden is 2.77. This is on a scale of 1-5, 1 being they never buy/grow these vegetables and 5 being they always buy/grow these vegetables. 2.77 is slightly below sometimes buying from a farmer's market or growing your own vegetable garden.



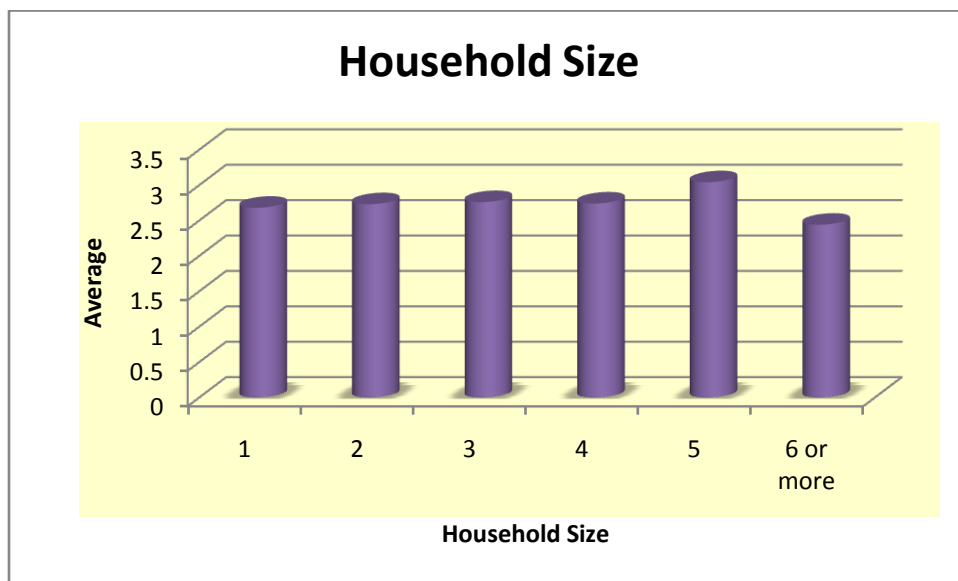
The above pie chart displays how often Belmont residents buy vegetables from a farmer's market or grow a vegetable garden. 28% said they rarely do. This is also the highest number of people that scored on this survey. Sadly only 11% said they always buy/grow healthy vegetables. Besides these figures, the percentages of 1, 3, and 4 were about the same. Only 31% respondents answered either 4 or 5. 47% respondents answered either 1 or 2.

### Correlation between the age and average scoring of how often Belmont residents buy food from local farmers' markets/grow a vegetable garden



As it is clearly shown above, “69 and over” residents buy more food from local farmers’ markets/grow a vegetable garden. This age range scored an average of 3.52. Unfortunately the count for this age range is only 21 out of the 217 surveyed. Surprisingly the “under 35” age range is the next most often to buy food from local farmers’ markets/grow a vegetable garden with a 2.78, which is slightly less than sometimes. Considering that my generation is quite wasteful, I am pleased to say that we do care a little about the environment and implementing healthy eating habits.

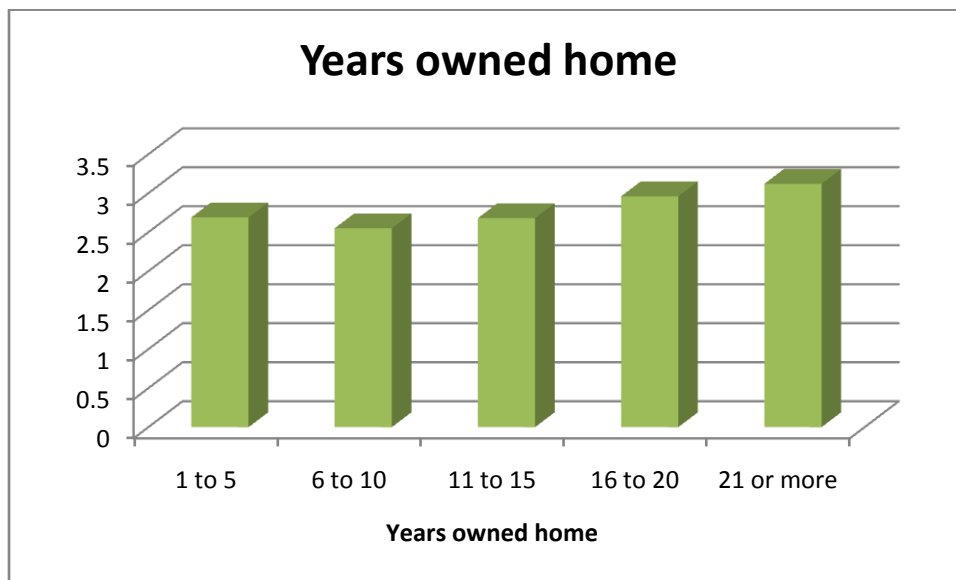
### Correlation between household size and people who purchase food from a local farmers market or grow a vegetable garden



There is no direct correlation between household size and people who purchase food from a local farmers market or grow their own crops. According to the chart above, households with a size of five are most apt to do so. Although it may seem many households do not hold five family members, 8.6% of the people interviewed fell into this section. A family of five's reasons for shopping at a local farmer's market may vary.

On the other end, households holding six or more family members are least likely to purchase food from a local farmers market or grow their own crops. With a total of 4% falling into this category, these households will need to purchase fruits and vegetables for the cheapest price in big bulks. Attempting to feed households of six or more through one vegetable garden is a great challenge. This category is most likely to purchase crops from the local supermarket.

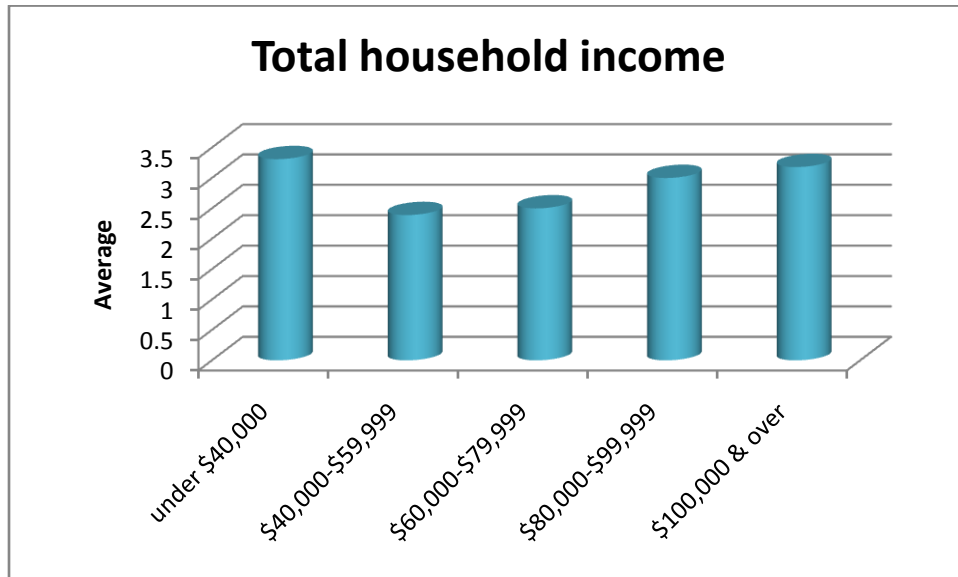
### **Correlation between years as a home owner and people who purchase food from a local farmers market or grow a vegetable garden**



According to the chart above, home owners who have owned their homes in Belmont for 21 years or more are on the top of the list. These homeowners are most apt to purchase food from a local farmers market or grow their own crops. An assumption is made that this section of people have grown vast crops and rely on them as a source of fruits and vegetables. It would be hard to assume that someone who had just recently moved in to the area would already have their own crops flourishing in their backyard.

In addition, one who has lived in his or her home for twenty-one or more years is far more likely to favor their hometown and support their local farmers by purchasing their produce from the farmer's market. For this reason, it is easy to conclude that the longer a person lives in their home, the more likely it is that they will either grow their own crops or buy their produce from the local farmer's market.

## Correlation between total household income and people who purchase food from a local farmers market or grow a vegetable garden



According to the chart above, households with total income of \$40,000 or less are most likely to purchase food from a local farmers market, or grow their own crops. There is a very large drop off at a combined income of \$40,000 to \$59,999, but begins to correlate with an increase of income to \$100,000 and over.

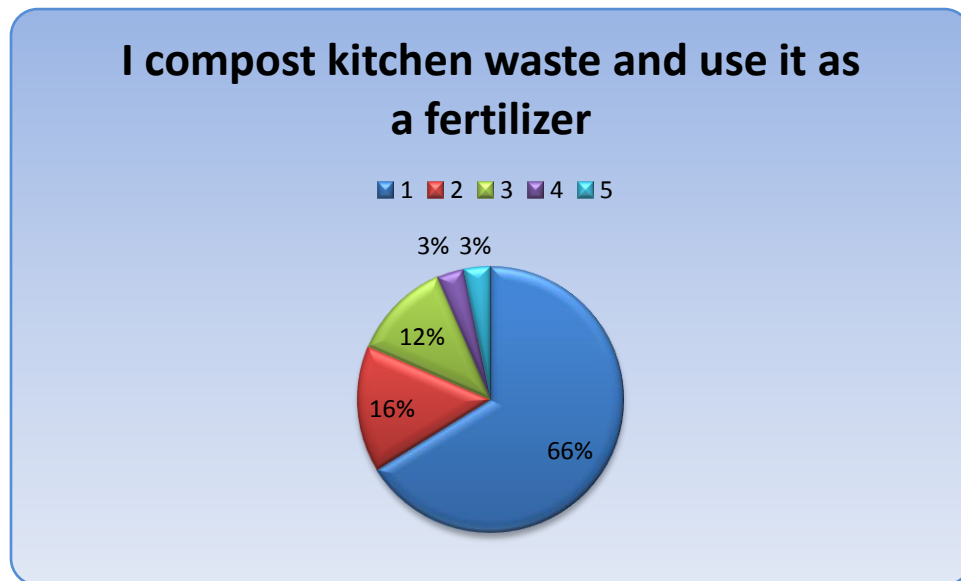
This chart shows that households with a total household income of under \$40,000 per year are most apt to purchase food from a local farmers market or grow their own crops. These households are most likely single person households, making it easy to purchase food from a local market. Also, it is very cheap to grow fruits and vegetables, which targets this class of people. As the income rises in households, people have money to spend on farmers markets. These people are not only looking at prices, but quality. As the income rises, homeowners are more able to pick and choose, without the price being a problem.

## 8. I compost kitchen waste and use it as a fertilizer.

### Why is this relevant?

Composting kitchen waste is an economically efficient way of disposing leftover food. This is important because it allows us to reuse our waste to rebuild our communities instead of dumping it in our local landfills. This question shows how many people in our group are environmentally aware and could be interested in an alternative energy source by using solar panels.

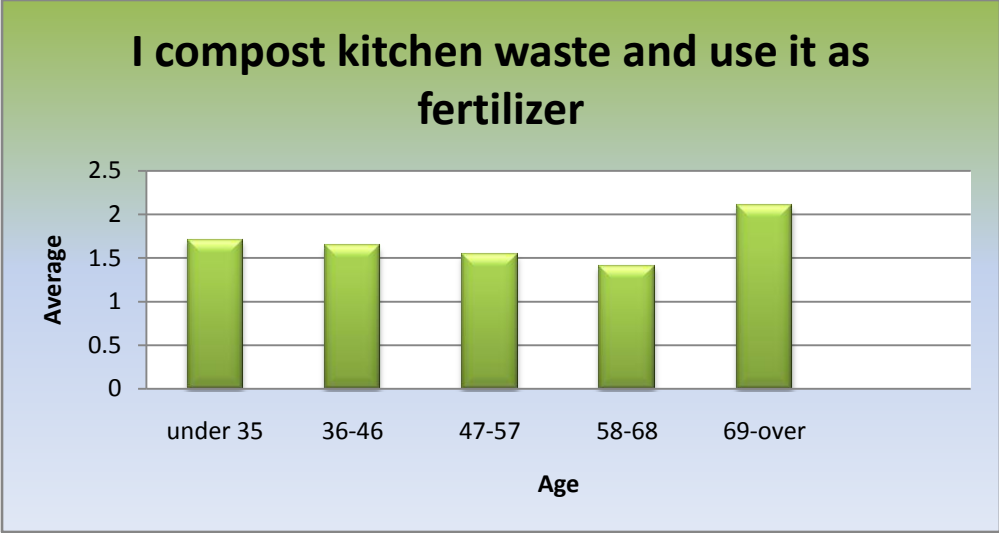
### Survey Results



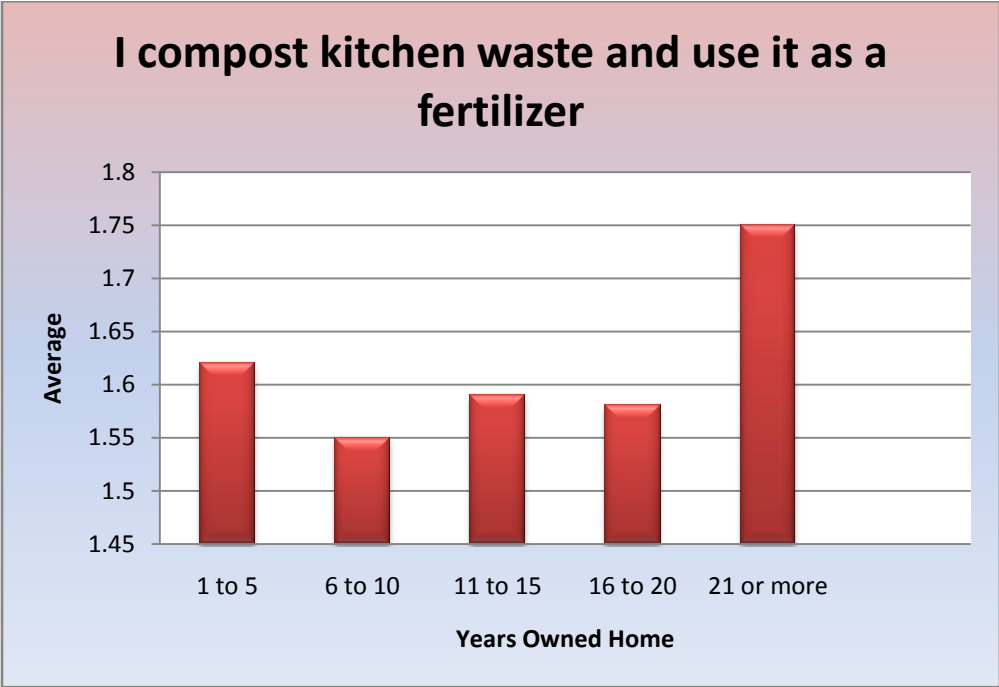
The average score for this question is 1.6, which shows that not many people are composting kitchen waste to use it as a fertilizer. According to the above graph, about two thirds of our population has never used composted kitchen waste as a fertilizer. We believe that this is because home owners don't have enough adequate time to use kitchen waste as fertilizer.

### Correlation between Composting and Age

According to the graph below, the average amount of people who use composting is not very high for our respondents in all age groups. The 69-over age is slightly higher than the rest possibly because they are older and have more free time.



**Correlation between Composting and Years Owned Home**



Those who have owned their home for 21 years or more are more likely to compost kitchen waste than the others. Most likely this is because they own their homes and feels more comfortable composting waste than the others.

Thus through our research we found that 66% of the population never compost kitchen waste. But we do not necessarily believe that is a good determinate in whether a household is environmentally aware. This is supported by our results from the survey, which explained that there was no correlation between whether a household composts kitchen waste and whether a household is interested in solar panels.

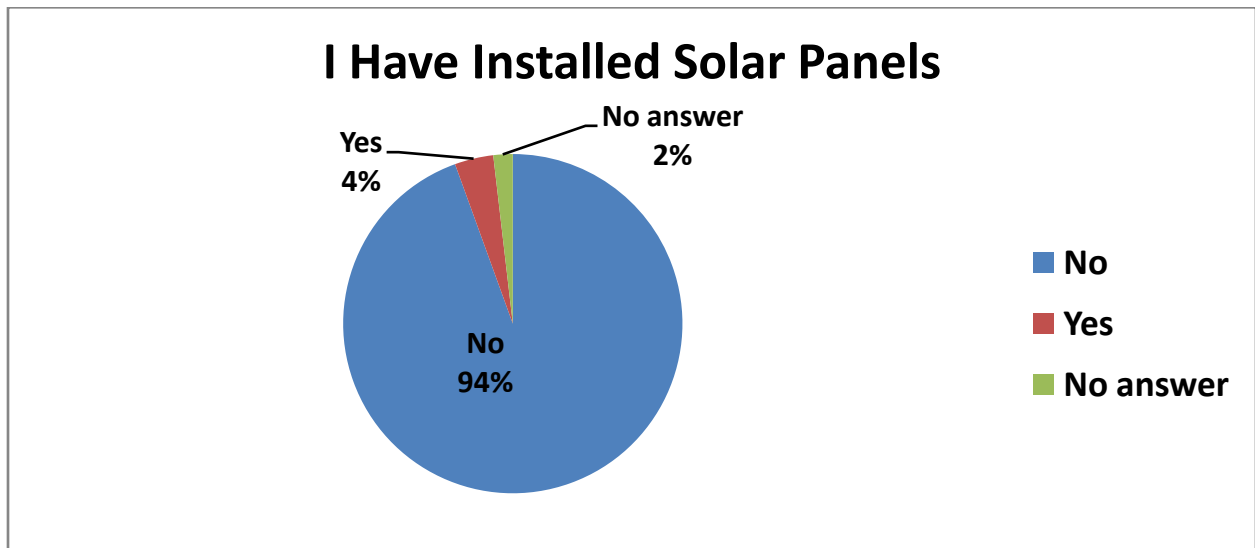
## 9. I have installed Solar Panels.

### Why is this relevant?

This question was most relevant to our research because in this survey we researched environmental friendly practices and we were trying to decipher if Belmont residents were interested in installing solar panels. We found that a large majority of Belmont resident had not yet installed solar panels. This information helps us to see the percentage of people in Belmont that have installed solar panels and the following questions explain more of their reasoning for doing so. Ultimately, this helps us determine if going green and implementing solar panels would be successful in the city of Belmont.

### Survey results

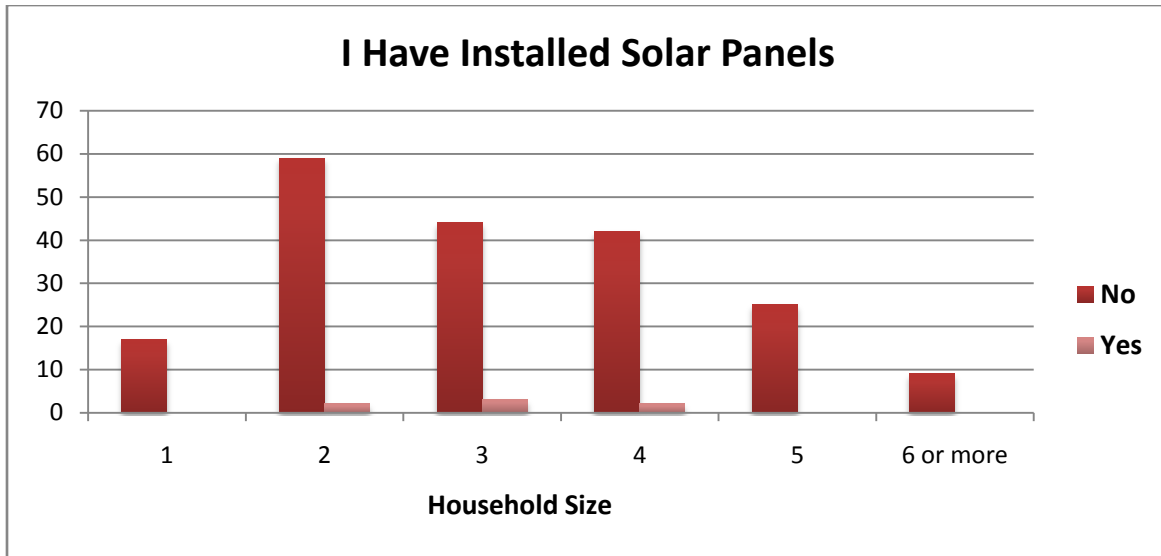
We surveyed 217 homeowners of Belmont and found that 94% of Belmont homeowners have not yet installed solar panels. Out of the 217 homeowners that we surveyed, 205 answered no, 8 answered yes and only 4 provided no answer to this question. Therefore, although there were some residents who in fact have already installed solar panels, it was a very small percentage of our entire data set.



The above graph illustrates the distribution of people in Belmont who have and have not installed solar panels in their homes. We found that 94% of Belmont homeowners have not yet installed solar panels, while only 4% have already installed solar panels in their home. Question 10 will better illustrate the reason as to why the majority of Belmont homeowners have not yet installed solar panels in their home.

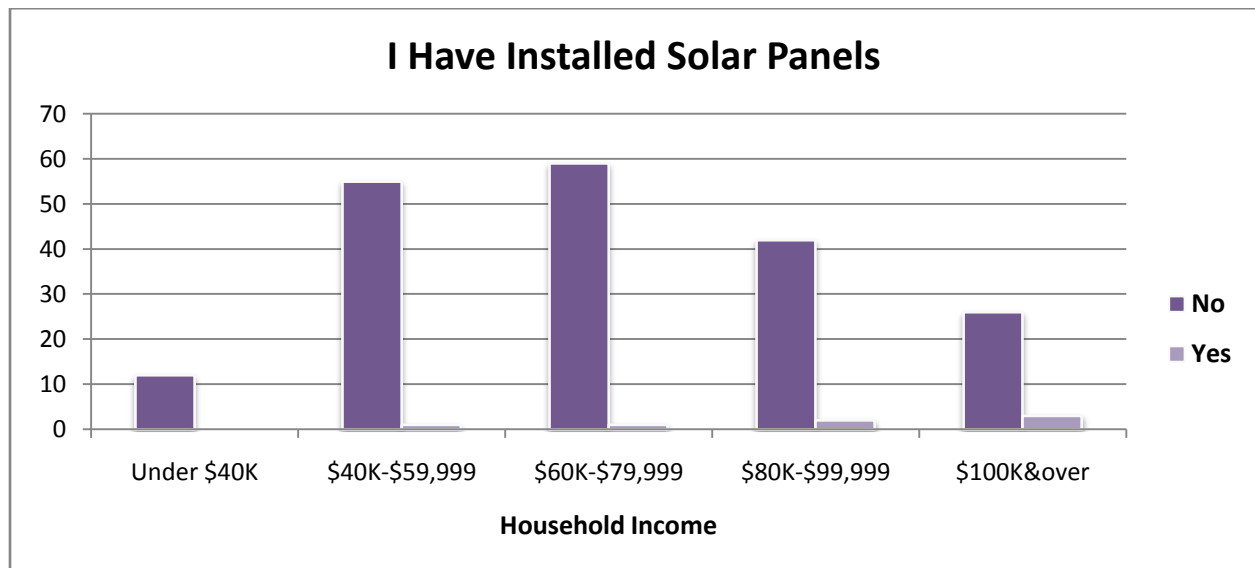


## Correlation between household size and solar panel installation



We found that the people who had already installed solar panels were the middle sized families with 2-4 members in their household. This is relevant because the larger the household size is, the less likely solar panel installation is practical for the family.

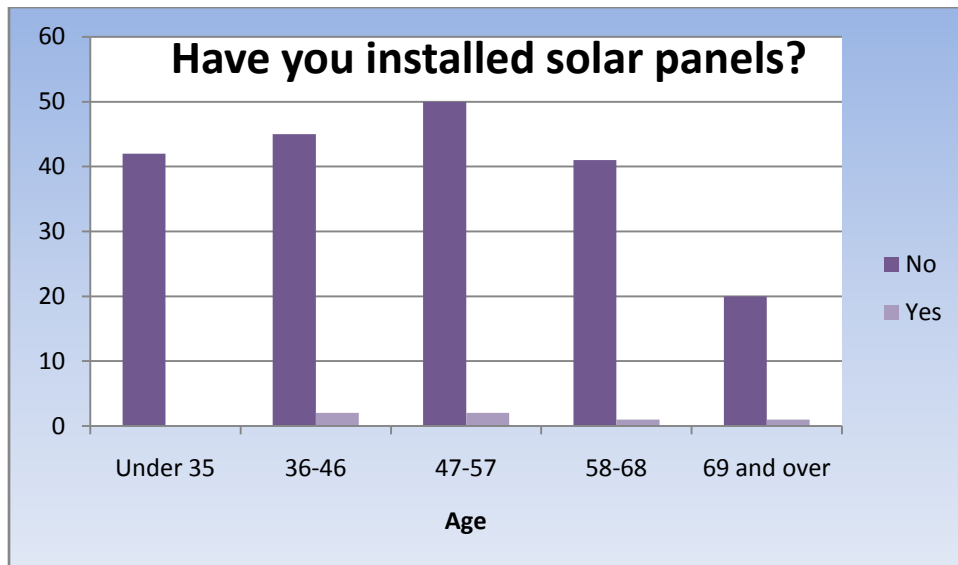
## Correlation between household income and solar panel installation



In the above graph we can see that the homeowners who make an income of \$100,000 and over are the ones who are more likely to have already installed solar panels in their home. Due to the high cost of solar panel installation, the people who have already installed solar panels are able to do so due to the amount of money they make. Installing solar panels in the home has become a new trend that accompanies going green policies, and people with a higher income have a more

expendable budget and therefore are the most likely to spend their money on home installation of solar panels.

### Correlation between age and solar panel installation



As we can see in the above graph most homeowners in Belmont who have already installed solar panels ranged in age from 36-57. The correlation between age and solar panel installation is that the more middle aged a person is, the more likely they are to have already installed solar panels in their home. The older the homeowner is the less likely they are to have installed solar panels in their home, most likely because it is a newer going green trend.

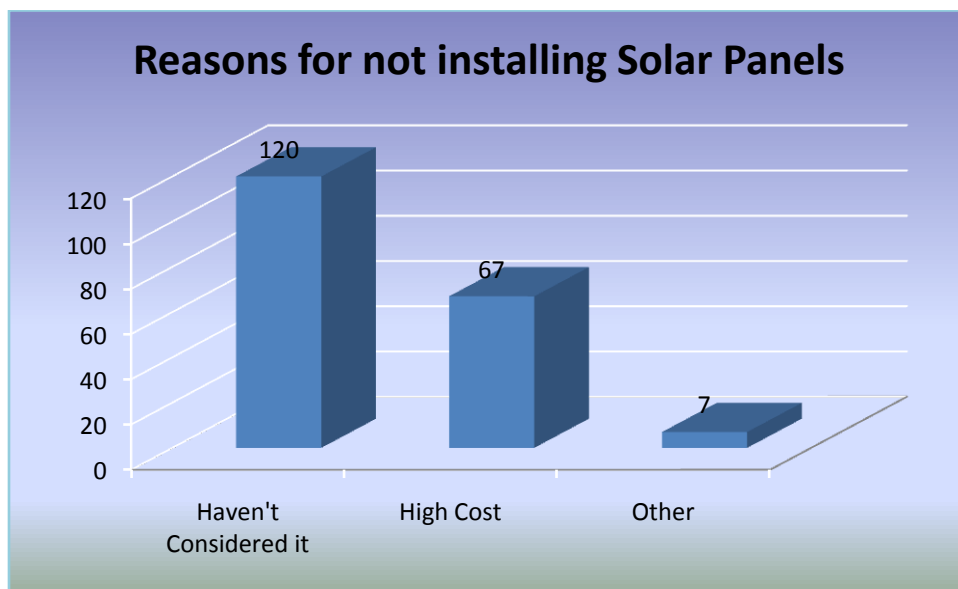
According to the data collected in the Going Green survey, the people who have already installed solar panels in their home are people who have a higher income, medium sized household and are in their middle ages ranging from 36 to 57 years of age.

## 10. What has prevented you from installing solar panels?

### Why is this relevant?

This is relevant because our current economy is in a recession and our president, Barack Obama, seems to believe that solar energy could be a key factor in our economic recovery. If Belmont understands why its homeowners have not installed solar panels, it can find key factors to encourage homeowners to implementing them. Solar power would not only benefit Belmont's homeowners, but also our current economy as a whole.

### Survey Results



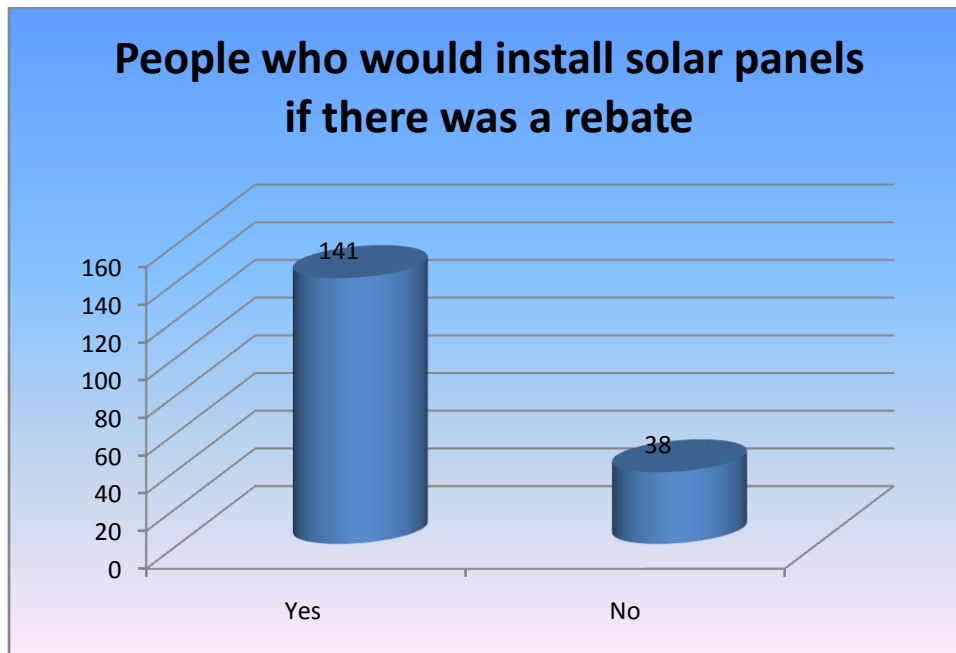
According to the graph shown above, we found that 120 or 55% of Belmont homeowners have not considered installing solar panels, 67 or 31% of homeowners found that high cost have prevented them from installing panels, and seven or 3% of homeowners said other reasons, which include living in a townhouse, inconvenient and having a small roof, have prevented them from the installation of panels. Since a high number of homeowners said they have not considered the implementation of panels, they need to be informed. If Belmont wants to generate greater interest in going green, especially with solar panels, informing the residents would be a great first step. This could be done easily with brochures to provide residents with the benefits and negatives toward solar panels.

## 11a. Will you be more willing to consider solar panels if you received rebates from the city?

### Why is this relevant?

This is relevant because we have found that high cost is another major drawback in preventing homeowners in Belmont from installing solar panels. Studies show that technological advances have made solar power implementation cheaper. Belmont adding a rebate would be an excellent incentive for its current homeowners. Also, the initial investment cost is the most, but the long term savings of solar panels would be worthwhile, provided that one can afford the initial installation.

### Survey Results



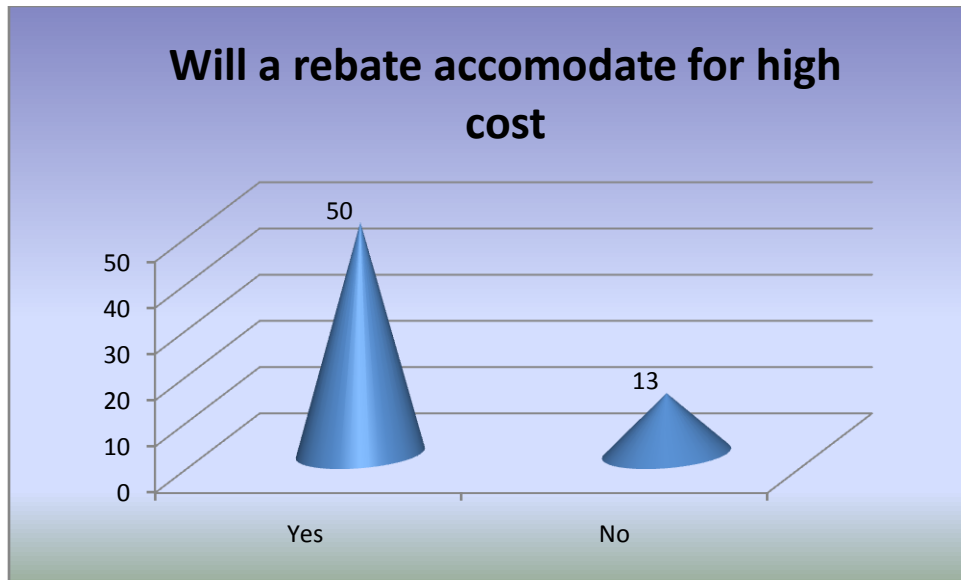
According to the graph shown above, we have found that 141 or 65% of Belmont homeowners would install solar panels if there was a rebate and 38 or 17% of Belmont homeowners would not. This shows that if Belmont were to create a rebate most homeowners would be enticed to put solar panels. Since solar panels considerably contribute to lessening our dependency on traditional forms of electricity, it will ultimately benefit the environment and people's wallets in the future for Belmont homeowners to install solar panels.

**11b. How many people who answered high cost as a reason for not installing solar panels also answered that they would install them if there was a rebate?**

**Why is this relevant?**

This analysis of the data is relevant because it proves that if there is a rebate more homeowners will indeed consider installing solar panels. Since so many homeowners in Belmont feel that it is too expensive to install solar panels, an incentive such as a rebate will help in the progression of Belmont becoming GREEN.

**Survey Results**



The graph above depicts that of the total 64 people or 29% of the people surveyed who claim that high cost is their reason for not installing solar panels, 50 or 78% stated that they would install the panels if there is a rebate with only 13 or 20% said they would not. This shows that a rebate is something that the city of Belmont should strongly consider in order to move the city closer to being GREEN.

## 12. A. Profile of respondents who have installed Solar Panels

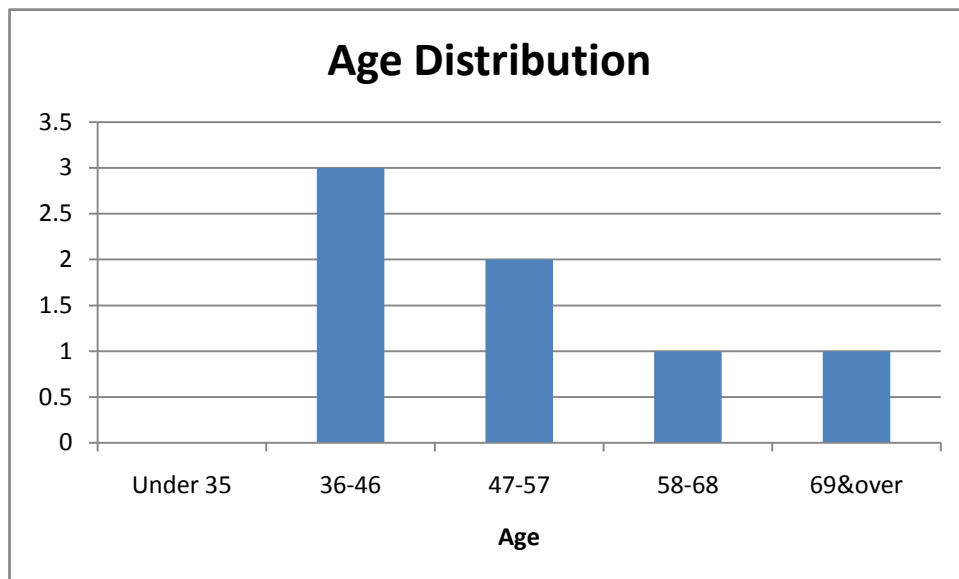
### Why is this relevant?

Analyzing the age distribution, ethnicity, household size, total family income and years owned home of those households who have installed Solar Panels can give us an insight into how to persuade more homeowners to install Solar Panels.

### Survey Results

Of the 217 people that were polled in this survey, only 8 households have installed solar panels in their home, which is only about 3%. According to the data, not very many people have installed solar panels for whatever reason.

### Correlation between the people who have installed solar panels and age

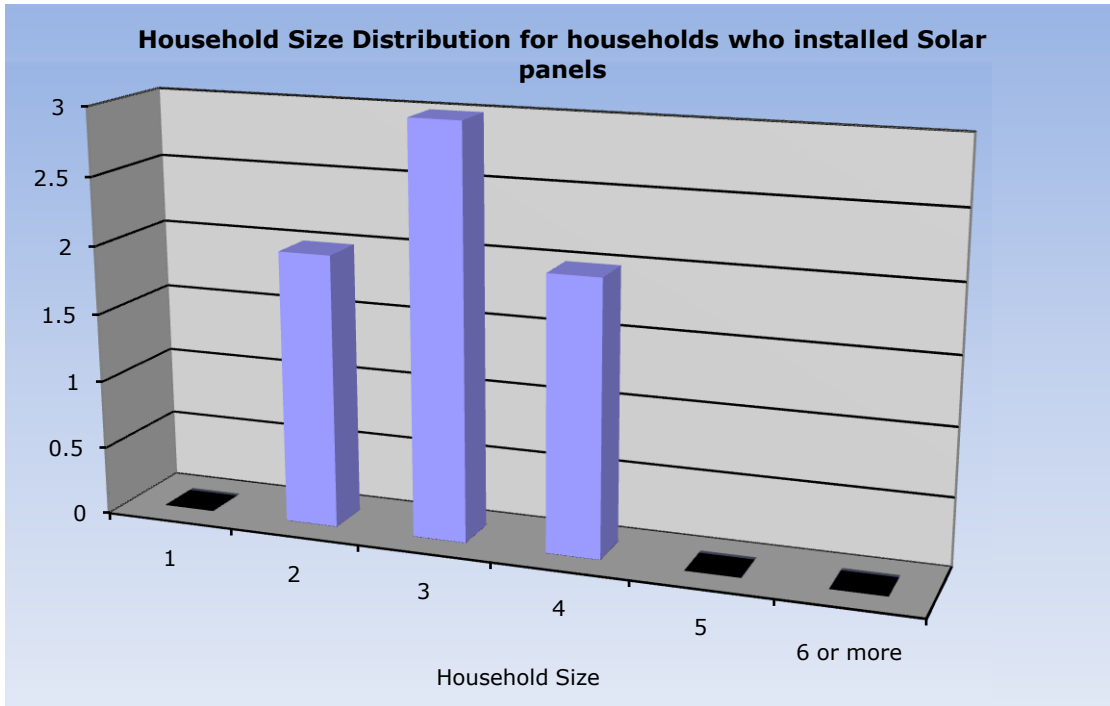


From the above graph we can see that most of the survey respondents who have installed Solar Panels are in the age groups 36 to 46 years.

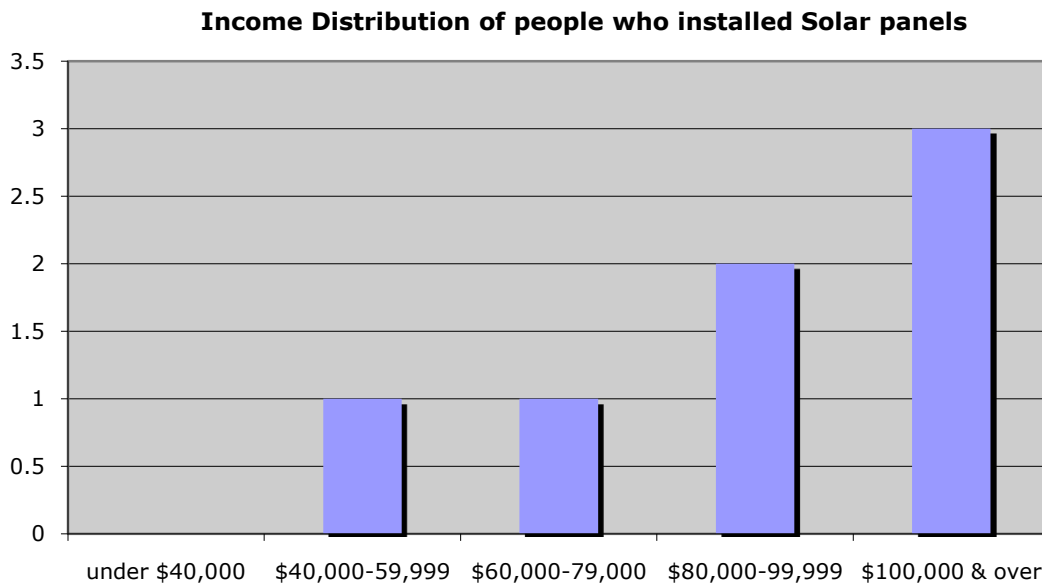
### Correlation between the people who have installed solar panels and household size

There is no real direct correlation between household size and those who have installed the solar panels because there isn't enough information to really be able to tell. Of those who have solar panels, households of 2, 3, and 4 were more prone to being environmentally friendly. According to the household distribution by the graph below household sizes of 1, 5, and 6 or more are less concerned about being environmentally friendly. The reasoning behind this could stem from

households of 1 maybe young and native while households of 5 or more people may be over preoccupied with their children and other activities.



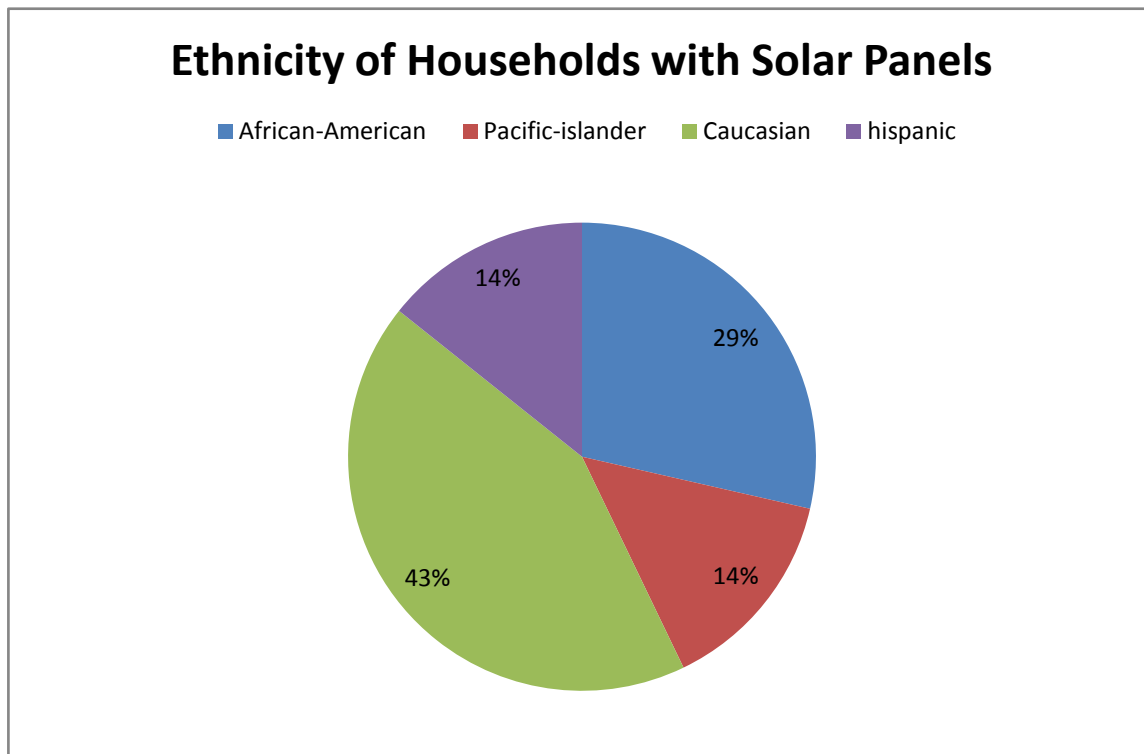
**Correlation between the people who have installed solar panels and total household income**



According to the income distribution graph below the number of respondents who have installed Solar Panels is distributed in the following way: 1 household's family income is between

\$40,000 to 59,999 and \$60,000 to 79,999 each, 2 households family income is between \$80,000 to 99,999 and 3 households income is \$100,000 & over The trend this graph below is indicates is households of higher incomes are more environmentally conscious.

### **Correlation between the people who have installed solar panels and ethnicity**

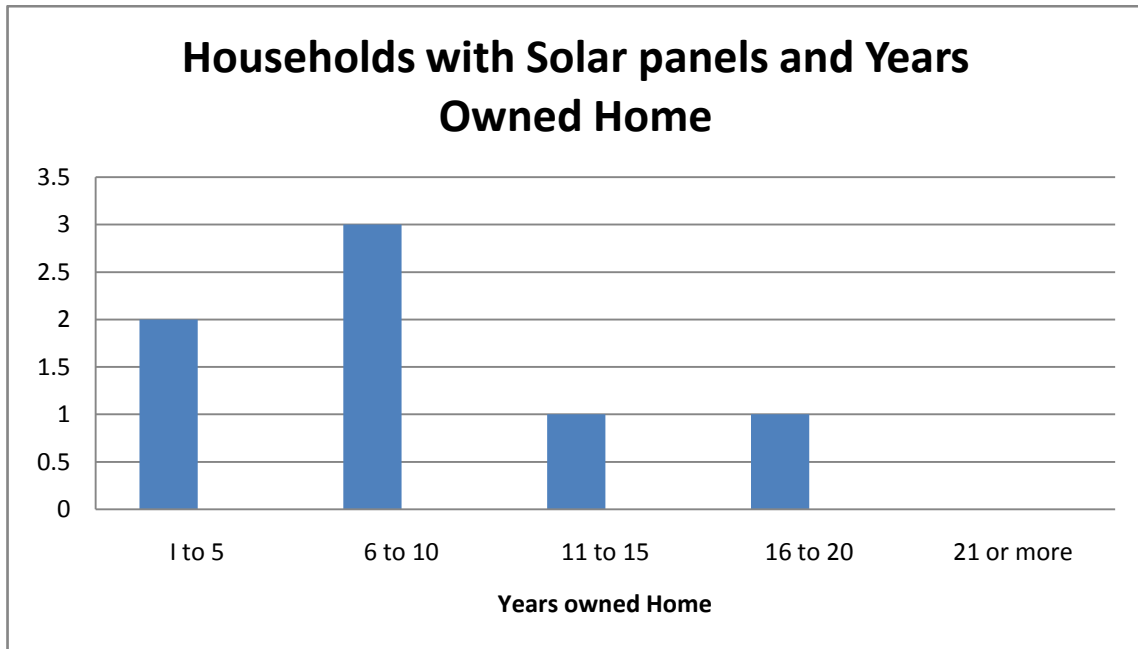


The above graph shows the different ethnicities of the homeowners who have installed solar panels. The above information shows how 7 people with Solar Panels responded to the question of ethnicity. There were 3 Caucasians, 2 African-Americans, and 1 Hispanic and Pacific-Islander each in our sample, who have all installed solar panels.

### **Correlation between the people who have installed solar panels and years of home ownership**

Of the people who have installed solar panels, taking a closer look at how many years they have owned their home can help show a growing trend in how people are starting to renovate their homes, and also make some precautions towards global warming, as well as going green.





Of the people who have installed solar panels, 2 people have owned their house for 1 to 5 years, 3 for 6 to 10 years, and 1 respondent each has owned their home for 11 to 15 years and 16 to 20 years. I find this to be interesting because it is usually the people who just move into homes that feel the need to go green.

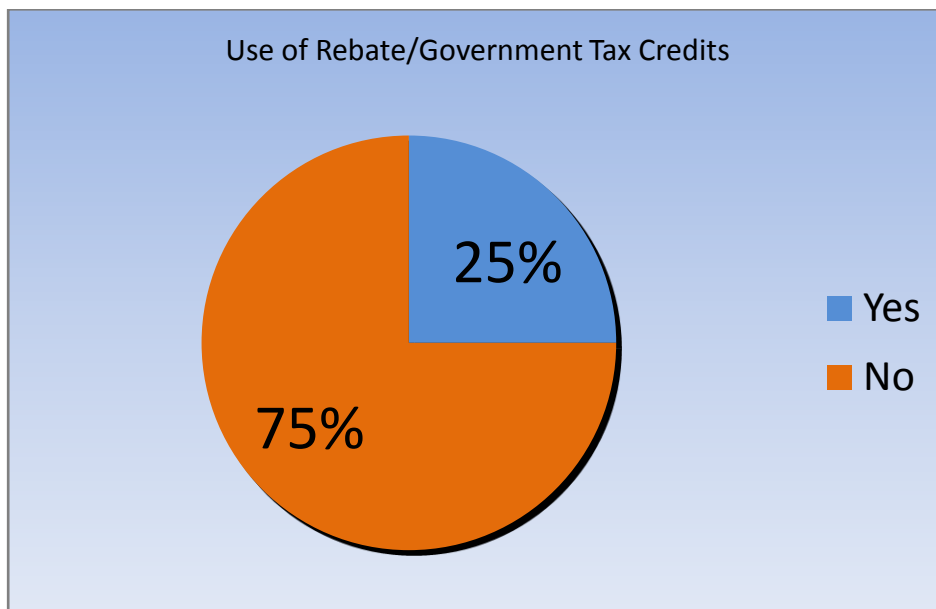
According to the data, not very many people have installed solar panels. Of the 217 people polled, only 8 did which is only about 3%. There is no direct correlation between ethnicity and those who have installed the solar panels because there isn't enough information to be able to tell. Of those who have solar panels, it tended to be of newer homeowners who are probably younger and are more able to have the solar panels installed. It could also be that the newer homes have solar panels.

**12. B. Did you take advantage of the rebate/ tax credit programs offered through the State or Federal government? If so, please list them.**

**Why is this relevant?**

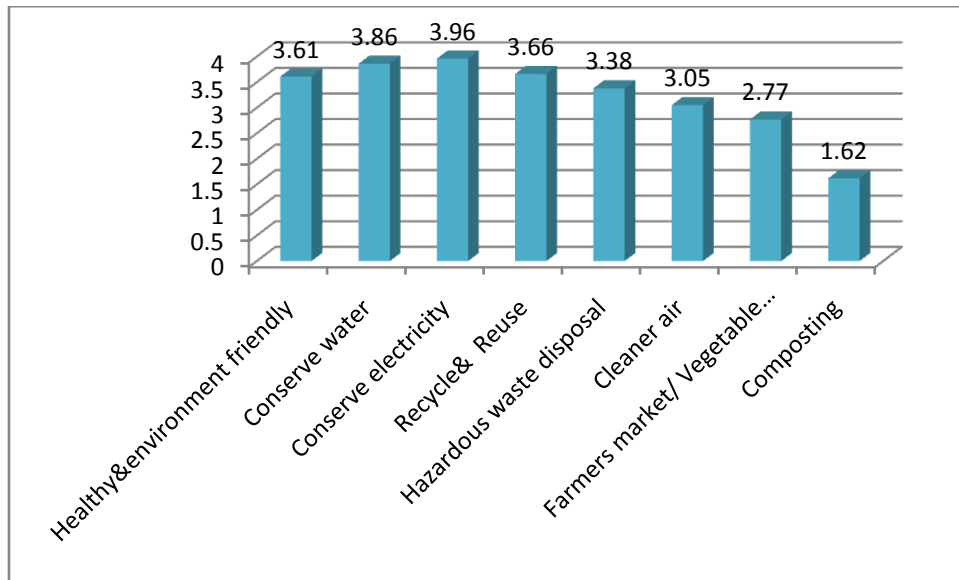
This is relevant because for the people who did decide to install solar panels, they had the choice to take or not take the rebate/ tax credit programs that were offered through either the state or federal government. By taking this rebate, it would have become cheaper for the household to purchase the solar panels. It is also relevant because installing solar panels helps out the overall environment and is an extremely green way to live.

**Survey Results**



Only 2 out of the 8 respondents with Solar Panels made use of subsidies offered by the State and Federal Government.

## IV. Summary and Conclusions



To conclude, Belmont residents have adopted “green” policies with a lot of gusto as can be seen by the variety of steps they have taken towards preservation of the environment. On a scale from 1-5, conservation of water and electricity, recycling and reusing, proper disposal of hazardous waste scored above 3. Air pollution reduction measures, eating locally grown food and composting were the three lowest scoring green practices. There are many more practices that can be adopted by the Belmont homeowners like the installation of Solar Panels. Only 8 out of 217 survey respondents have installed solar panels in their homes. A majority of the respondents have not considered use of solar energy as a viable option or they think that it is too expensive. Even among the eight homeowners who have installed solar panels, only two took advantage of the state and federal rebates.

It is recommended that the city of Belmont should start a “Going Green” education program in schools. It can emphasize that following green practices is not expensive and can even save money. It should provide more information to the homeowners about solar panels and how they could take advantage of the available rebates to bring down the costs of installation.

Thus, the city of Belmont should publicize the availability of federal and state rebates so that more Belmont residents can adopt them.