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Pilot Project for a GHG Emissions Reduction Initiative via a Student Competition in South Miami, FL Citizens for a Better South Florida

Project Summary Part I. Description

Participating organizations

- Citizens for a Better South Florida
- The City of South Miami staffs a Grants & Sustainable Initiatives

Administrator, Jennifer Korth, who acted as a City liaison to the community during the course of this project. Ms. Korth assisted with advising, recommending strategies, reaching out to schools, and helping to organize the awards ceremony at the City of South Miami Commissioners meeting. Ms. Korth also assisted with involving the Mayor of South Miami and the City Manager in presenting the awards to the students.

The project will take place in Miami-Dade County in the City of South Miami, incorporated in 1927 and with a permanent residential, multi-ethnic population of approximately 12,000.

Background or problem statement (why was the project carried out?)

GHG emissions are growing at an alarming rate in North America. Generation of just electricity alone accounts for 6% of the world's global GHG emissions. The Energy Information Administration found that over 40% of energy consumption last year came from buildings- both commercial and residential. While commercial buildings are a larger portion of this percentage, landlords and business owners predominately make decisions on energy efficient practices. To establish a culture of change, one needs to create a consciousness of energy consumption in everyday people. This starts by directly tying it to their pocket books.

General description of the project (what was done?)

The main activity of this project was the creation of a competition amongst classrooms of grade school students that reduced electricity consumption in their homes and empowered them to encourage their households to develop more energy conscious and electricity conserving habits to reduce their carbon footprint, lower their utility bills, and ultimately make the planet a better place to live. The students attended Energy Savings Workshops created by CFABSF where they learned energy savings strategies and then applied these tactics at home. At the end of the month monitoring period, students compared that month's energy consumption with the previous month's consumption to calculate a % reduction. Meanwhile, they participated in planting a native butterfly garden around their classrooms which was used as a teaching tool to learn about the benefits of planting native species to reduce water and energy usage. The students also created energy saving posters where they depicted the methods they used to reduce their utility bills.

Description of outcomes and follow-up (what did the project achieve?)

Results of the Energy Competition were tallied and a winner chosen from each class, as well as the winning class that saved the most energy. Overall, the total amount of energy saved between the 4 classes was 1806 kWh! The students reduced their carbon dioxide emissions by a total of 1.41 tons. In one month the students saved .45 tons of waste from a landfill, 2.9 barrels of oil, and 1338 pounds of coal. That is the same amount of CO₂ that would be emitted as a result of burning 140 gallons of gasoline! Our hope is that these students and their families continue these energy efficient practices and continue to spread the word about how being energy efficient can help save you money on your electric

bill, as well as saving the planet. The infographic poster that was created will be continued to be displayed at Citizens Headquarters, as well as in the library of the South Miami K-8 Center. This poster will be used as a model and teaching tool for the groups of volunteers and participants that visit Citizens on a monthly basis. We would also like to replicate this project in other schools across Miami-Dade County, reaching an even larger audience, and further reducing Green House Gas Emissions.

Project Summary

Part II. Analysis

Successes

The workshops created by CFABSF were successful in educating students and teachers about simple methods to reduce their energy usage. The combination of presentation, infographic handouts, and hands on demonstration engaged the students and got them excited about the project. The prospect of a contest with prizes was also enticing and excited their sense of competition. The goal was to ensure that students learned an average of 5 new strategies following the workshops, measured by conducting the Pre and Post surveys. The results of the surveys showed that students learned an average of 9.7 strategies, a definite success.

This project was broadcast and promoted by the local press and media, and CFABSF received a lot of positive feedback from other local organizations about the project as a result. Several green energy and utility companies contacted us following the Miami Herald newspaper article, interested in pursuing a possible partnership to continue the project in the future. Having the support of the City of South Miami Mayor and the City of South Miami Office of Sustainable Initiatives was crucial with this project, because it allowed opportunity to have more exposure, increasing awareness and consciousness which in turn empowers other residents to actively participate in reducing their Green House Gas Emissions.

Challenges

Most of the challenges encountered with this project related to communication between students, parents, and CFABSF staff. Multiple attempts were made at engaging the families of participating students, but it took many letters home before they responded by sending in their utility bills. One of the reasons for this may have been a language barrier, as stated in previous reports. Once we started to send home communications in English and Spanish the results improved drastically. In future projects, all communication attempts would definitely be sent out in multiple languages. In total, 80 students participated in the Energy Savings Workshops, but only 50 students brought in their utility bills to complete participation in the project. This may have been due to some students' lack of engagement with their families about the project.

Lessons Learned

In regards to our second goal for this project, to reduce electricity consumption in households of all participants by developing a competition within a school between classrooms and amongst students, we fell short of our target for a 10% reduction in electricity usage for the average household. Our actual average reduction was 7.63% for the average household. Since a reduction of 8% is substantial for a one month period of time, I think that the original goal of 10% may have been set too high. For future projects I would set the target for 8% reduction for a one month period, and perhaps 10% for competitions running for longer length of time. This would give participants more time to become adjusted to their new methods of energy reduction.

What Next? (What will you do and what should others do?)

The next steps for Citizens for a Better South Florida are to continue to promote this project on our website and social media sites. We are actively searching for further funding to continue and expand this very exciting project. We hope to replicate this project in many schools across Miami-Dade County in years to come. With each completed competition, the effects of a reduction in Green House Gases are far reaching, curbing society's energy use and mitigating our carbon foot print.

For more information about the project please contact:

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