

Comparison of The Carbon Footprint As Results of Human Activity In New York And Alaska

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INTRODUCTION

Severe effects on the environment and our health are coming from our enlarging carbon footprint. Carbon footprint is the overall amount of greenhouse gases (mostly CO₂) that are emitted into the atmosphere each year by a person, family, building, organization, or company (United States Environmental Protection Agency). This includes heating a home or riding in a car, which produces greenhouse gas emissions from fuel. This also includes the making of electricity from fossil fuel and coals, the factories that make products, and landfills where trash gets sent all contribute to a massive amount of greenhouse emission in our atmosphere. Greenhouse gases are causing climate change due to the increase in temperatures and carbon dioxide concentration in the atmosphere, thus altering temperatures, precipitation, and sea levels. Despite the plethora of greenhouse gases, there are prominent chances to reduce greenhouse gas emissions. In 2010 New York City added 54 million metric tons of carbon dioxide to the atmosphere, but that number means little to most people because few of us have a sense of scale for atmospheric pollution. On average, U.S. household food consumption emits 8.1 metric tons of CO₂ each year. The production of food accounts for 83% of emissions, while its transportation accounts for 11%.Therefore, keeping track of the amount of CO₂ emission by each individual is an important task that should be considered for preventing climate change. In this study we administered surveys between individuals who live in two different states to find out the effect of life style and habitat on the CO₂ emission by each person.

QUESTION/PROBLEM

Does everyone know how to calculate their own carbon footprint? Is everyone aware of how to contribute in declining climate change by changing their life styles?

HYPOTHESIS

Carbon emissions from personal activities will be lower in Alaska than New York.

METHODS

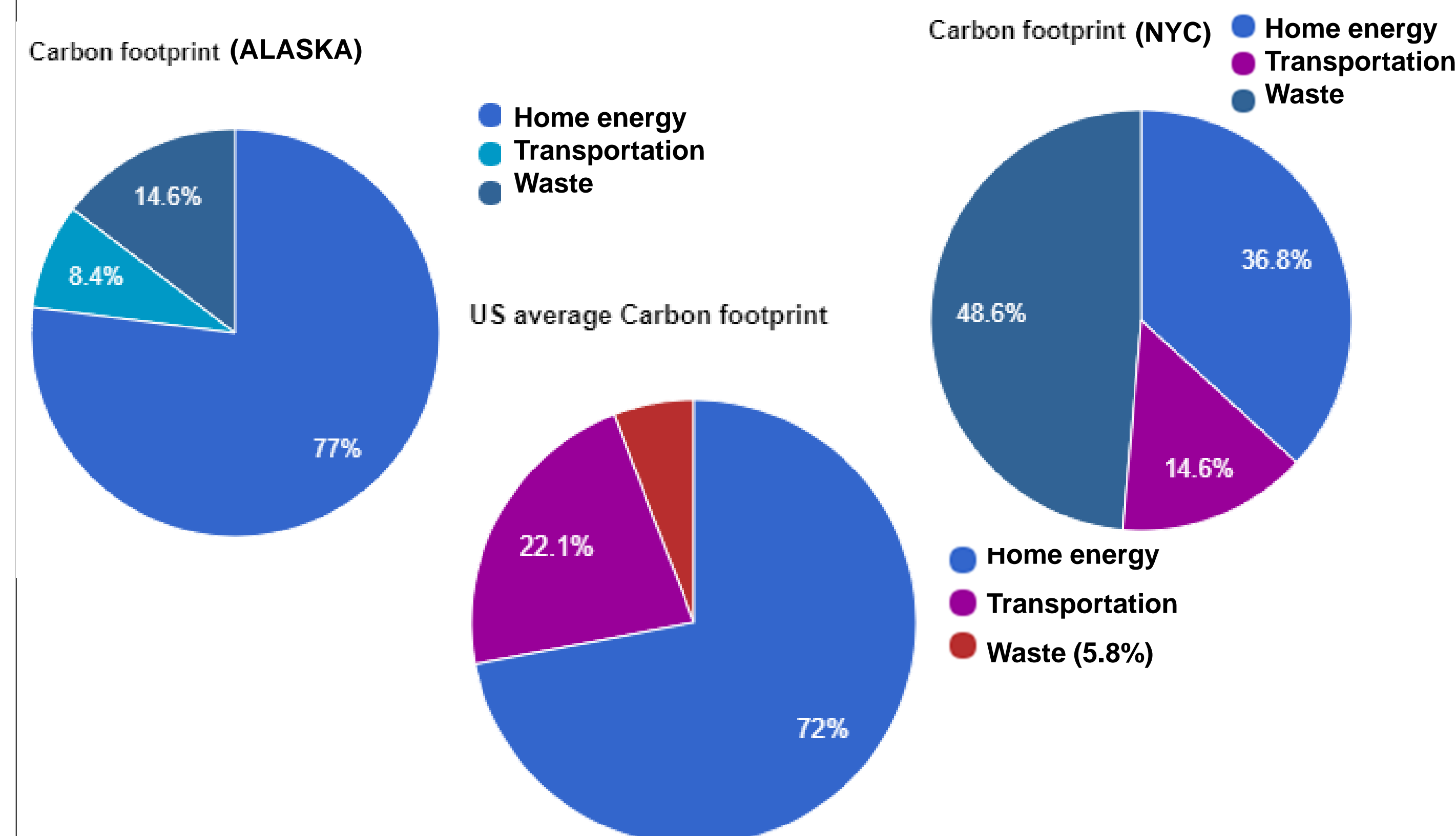
- This study was conducted in November 2017by administrating Carbon Foot print survey in NYC and Alaska.
- 30 individuals, 7 males and 23 females were participated in total in this study.
- 90% of the participants were between 20-30 years old and 10% were over 50.
- Collected data through surveys were analyzed by using EPA's Carbon Foot print calculator.
- Graphs were made by using those data.

Participant (NY)	Number of people in household	Home size	Used heating fuel	Number of cars	Eat organic	Daily dairy and meat (lb)	Spending on personal needs weekly (\$)	Recycle
1	4	Small 3000 kWh	oil 2.96KG/liter	0	none	1	10	Yes
2	6	medium 4800 kWh	gas 18000 kWh	0	none	1	50	yes
3	2	small 3000 kWh	gas 12000 kWh	0	some	2	25	yes
4	3	medium 4800 kWh	gas	1	some	1 1/2	100	no
5	1	small 3000 kWh	gas	0	some	0	12	yes

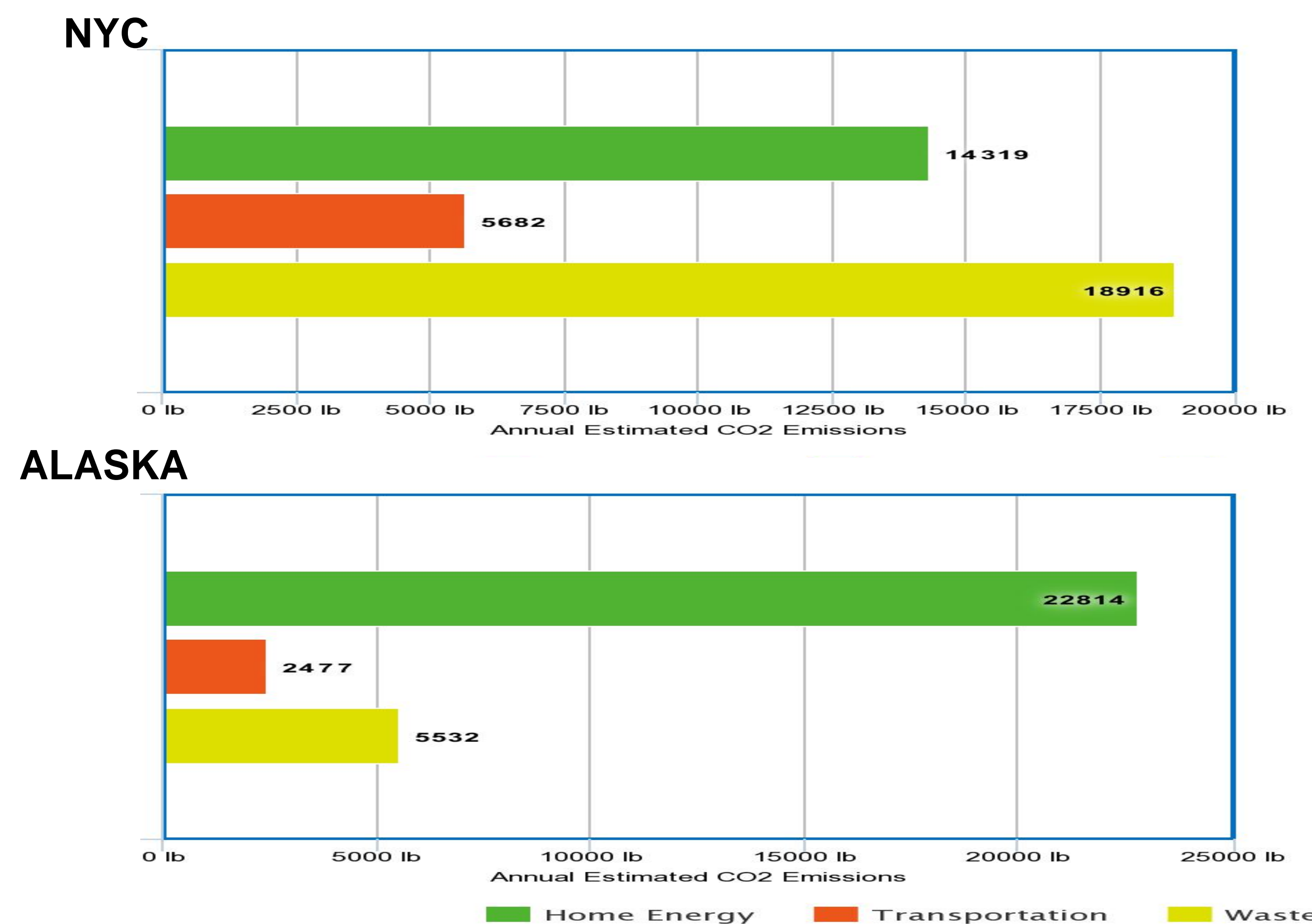
Participant (Alaska)	How many people are in your household?	Home Size?	What kind of heating fuel is used in your home?	How many cars are used in your home?	Does your family eat organic?	How much dairy and meat do you eat on a daily basis? (lbs.)	How much do you spend on your personal need? Do you recycle?
1	4	medium	Heating oil	2	some	2lb.	Above average, yes
2	4	large	Heating oil	2	some	2lb.	Above average, yes
3	3	large	Heating oil	3	some	2lb.	Above average, no
4	5	large	Heating oil	2	some	2lb.	Average, yes
5	2	small	Wood-burning	2	most	Vegetarian, 1/2lb.	Average, yes

RESULTS

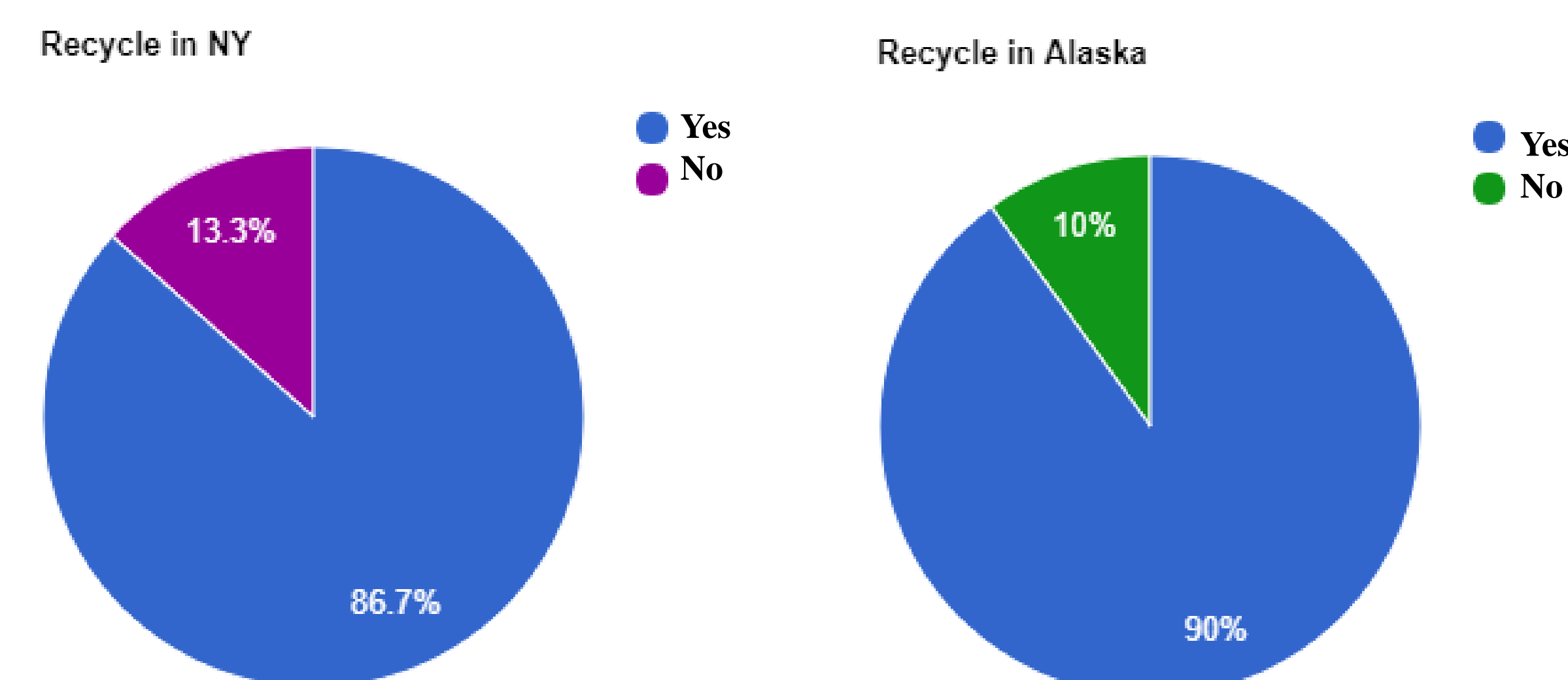
Comparison of Average Carbon Foot Print Per Person in NYC, Alaska and Nation



Comparison of Annual Estimated CO2 Emissions in NYC and Alaska



Reducing Carbon Footprint



DISCUSSION

- The size of our footprint is deeply correlated to our awareness of these actives which are contributing to more CO₂ emissions in the atmosphere.
- As we can see, the CO₂ emissions are involved in every part of our lives. Our daily activities can have a tremendous impact on the environment and climate changes.
- We also noted that our energy usage is significant to our carbon footprint.
- Another important thing to note is that our natural resources (water, lands, and trees) do suffer consequences from CO₂ The and greenhouse gas emissions. Reducing our Carbon will preserve these resources and save our planet.
- The CO₂ emission from the wastes and transportation is higher in NYC than Alaska. This data shows that keeping life simple causes less carbon dioxide emission and helps us to prevent climate change.

CONCLUSIONS AND FUTURE STUDY

- Our hypothesis was approved in terms of higher carbon foot print among individuals who live in NYC.
- Every day activities do indeed attribute to the increase of greenhouse gas emissions.
- Each individual should keep track of own carbon foot print and think how and which interventions can reduce our direct and indirect emissions.
- All individuals should be educated on how their choices for purchasing and consumption different types of food and their life styles are crucially important for preventing climate change.
- We can start by switching out our light bulbs to CFL or LED which is more energy efficient, turning off lights when are not in the room, and turning off our computer screens.
- Follow EPA guidelines for reduction in waste and we should consider the proper ways to recycle.
- Finding a sustainable way to decrease the carbon emission from the wastes.
- In future there is need for more study on the levels of CO₂ emissions between different genders, ethnicity, and ages to find a more efficient solutions based on these differences.

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ACKNOWLEDGMENTS

We thank Professor Dr. Maria Entezari for this opportunity. This work is supported by PSCUNY award Cycle 47 granted to Dr.Entezari and NIH Bridges Program granted to LaGCC.