



# CLIMATE DETECTIVES 2022-2023

Climate Doctors  
St. Patrick's Secondary School



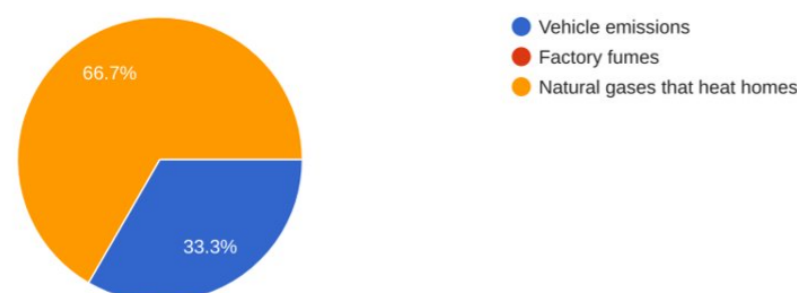
## RESEARCH QUESTION

**Is the air quality in Castleisland impacting the respiratory system of the inhabitants and increasing occurrence of asthma?**

## SUMMARY OF PROJECT

We started off by sending out a survey to all members in the school asking them questions to see if they had Asthma. 18.2% of people said they have Asthma and 15.5% of them were on an inhaler. We then went around to local pharmacies and handed out another survey asking them their opinion on Asthma. Our results were as follows. 66.7% said Asthma was more of a problem after Covid19. 66.7% said natural gases that heat homes affect air quality in Castleisland. We were also informed that out of 3 pharmacies 600 inhalers are sold per month combined. We then used the air quality meter to find the air quality in Castleisland which told us several things such as carbon monoxide, no2, co2, pm2.5, pm10 and nh3.

If so, what do you think affects the air quality of Castleisland?  
3 responses



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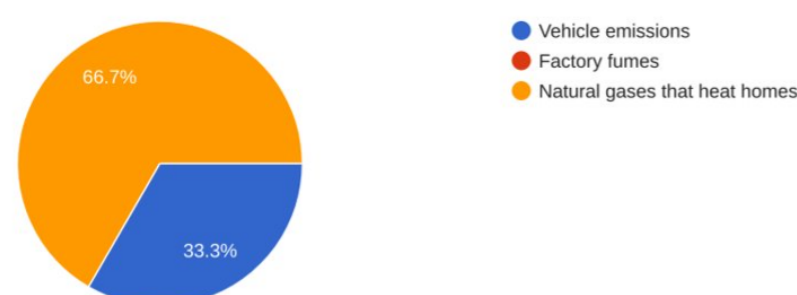
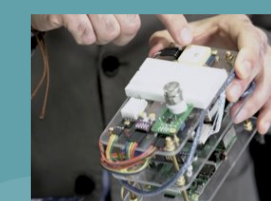


Figure 1:

## MAIN RESULTS

We got our results from several responses of students in our school. We asked them questions to see if they had asthma and if so to see how long they have had it for 18.2 % of people in our school said they had asthma. 17 out of 110 have asthma out of our responses. We then asked the people who said yes to having asthma and all of them said they have had it for life. We went to pharmacists after we got all the information from the school students, and we handed out each pharmacist a survey. On the survey we asked them if they thought asthma was a problem before or after covid and 2 out of the three pharmacists we asked said that it was more of a problem after covid. We then asked them their opinion about what affects the air quality and 2 pharmacists said Natural gases and one other said vehicle emissions. The last question we asked the Pharmacists was Approximate number of people who buy inhalers for asthma. One of the pharmacists said roughly 200 people another said roughly 300 people, but the last pharmacist thought the information should be private. Lastly, we moved on to find the air quality in Castleisland and the results are as follow, carbon monoxide 4.5ppm, no2 0.15ppm, co2 15.6997ppm, pm2.5 4.3, pm10 3.7, nh3 0.64pm.

### Air Quality Summary



- Carbon monoxide- 4.5ppm
- NO2- 0.15ppm
- co2 156997ppm
- pm2.5 4.3
- pm10 3.7
- nh3

Figure 2:

## ACTIONS TO HELP LESSEN THE PROBLEM

Some actions that could be taken to make a difference and to help lessen the problem include a switch to where our electricity comes from. Examples of these are switching from non-renewable sources of energy such as coal and oil to renewable sources such as windmills, Solar panels and hydroelectric power. Another thing that could be done to help lessen this problem is to encourage people to use electric cars instead of petrol and diesel used cars. Another even better way of transport is walking and cycling where possible. From our studies we find that many people who live close to school may use a vehicle to get here. We encourage all to try avoiding this as much as possible as every little helps. We as a team have come up with the idea of doing a school campaign to promote this. This will help the planet but most of all it will help us, the people who live here. By doing this we hope that this will change our air quality data, by bringing down CO2 levels from vehicles and raising the O2 levels we need. This would make a big difference to the town of Castleisland. Another factor that influences our data is factories in the local area. These factories leave out fumes every day when producing their products. Local factories nearby include Rhyno mills, Educate.ie and the mart. By powering factories with renewable energy such as windmills, hydroelectric power and recycling rubbish.

Figure 3: