



Stonelaw High School and Trinity High School Geography Students Present:

Geothermal Energy and our Community

Tuesday 11th June 2024, 1:30pm
Stonelaw High School, Rutherglen



British
Geological
Survey

Welcome to Today's Speakers:

1. Fiona McLean
Project Manager, Business & Community Growth
Clyde Gateway

2. Hazel Napier
Geoscience and Society Lead
British Geological Survey
- Introduction to the Heat from Coal Mines Project

3. Kyle Walker-Verkuil
Glasgow Observatory Site Technician
British Geological Survey
- How the Geoenery Observatory works
- What it aims to achieve

4. Colin Findlay and Bob McDonald, Rutherglen Heritage

4. Geothermal Energy in our Community
Presentation by Stonelaw and Trinity Pupils

Welcome to our Project!

We are Trinity school Eco Club and Stonelaw High Eco Club. Together we have found out people's knowledge of Geothermal Energy by undertaking surveys in Cuningar Loop Park.

Our schools both made different surveys and here are the results !

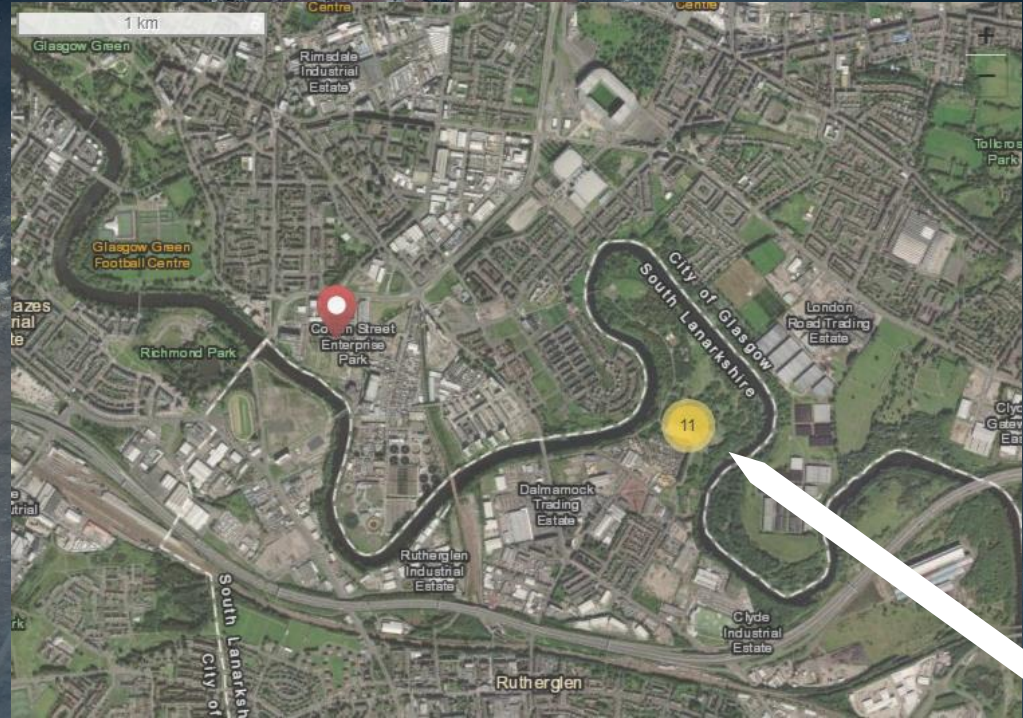


Introduction to Project

We learned that the Glasgow Geo-Observatory is focused on:

- Understanding how water in abandoned mines can be used to heat buildings;
- Learning how Heat From Coal Mines can play a key role in the decarbonisation of heating;

This is important because it will help achieve the UK's transition to net zero by 2050 (2045 in Scotland). This map shows the location of the Observatory's 12 boreholes.



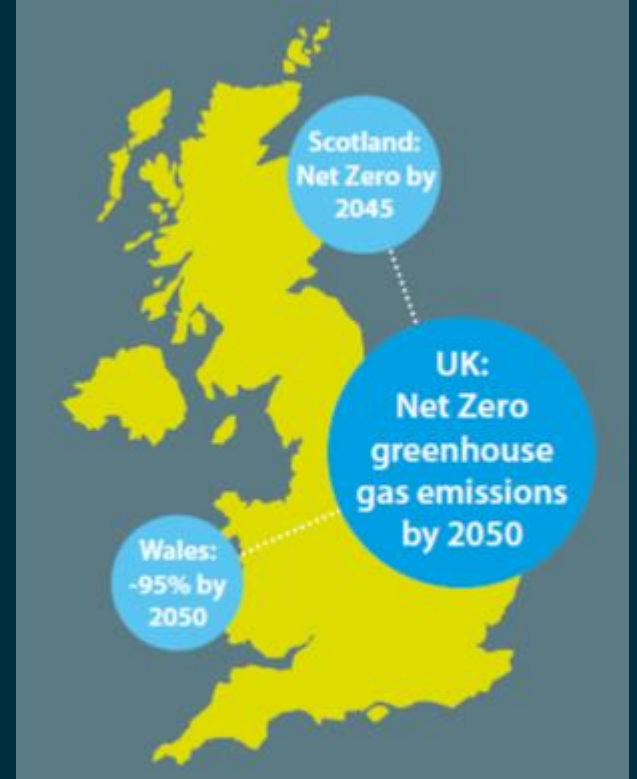
We tried to find out.....

What does our wider community know about geothermal and other low-carbon energy?

Do people know the benefits and risks, hopes and fears about geothermal and low-carbon energy?

What would people like to see happen with low-carbon energy in our community in the future?

How can we achieve net-zero carbon emissions?

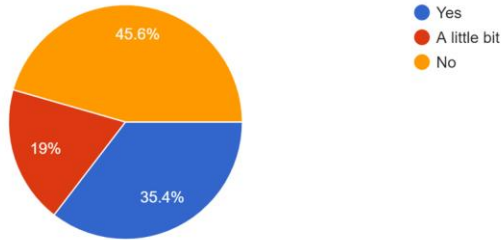


OUR RESULTS

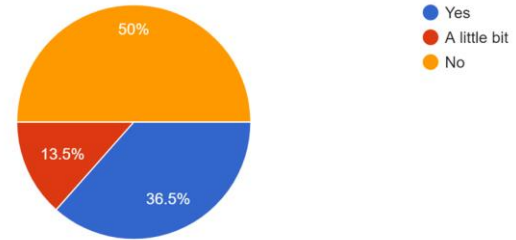
This is what we found...

Q1a. Do you know what geothermal energy is?

1a. Do you know what geothermal energy is?
79 responses



1. Do you think you know what geothermal energy is?
52 responses



Stonelaw HS

Stonelaw found there was **quite an even split** between people knowing and not knowing what geothermal energy was.

Trinity HS

The results from this sample were similar, with **50% of respondents saying they didn't know** what geothermal energy was.



Q1b. Can you say what Geothermal Energy is? (Stonelaw)

Most people who responded knew that geothermal energy was a form of renewable energy using heat energy from the ground.

One quote from the survey is "Using underground water for heat above ground."

Heating up water

Using heat from the earth's core as a fuel.

Using natural products to create energy

Using underground water for heat above ground

Energy from the earth's crust, therefore a new and sustainable source

Using natural heated water/springs for energy

Form of Renewable energy

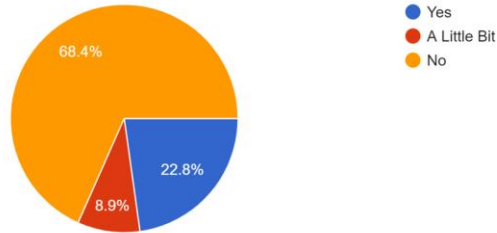
Using heat from underground

Recycling heat from existing sources

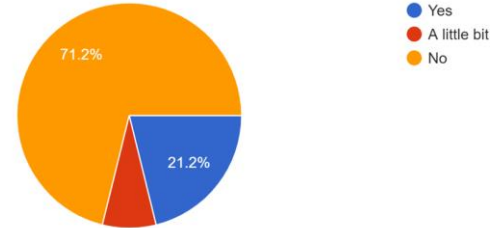


Q2: Did you know that Geothermal Energy was being researched in your community?

2. Did you know geothermal energy was being researched in your community?
79 responses



2. Have you ever heard of geothermal energy being researched at Cuningar Loop?
52 responses



- Stonelaw HS

The majority (almost $\frac{3}{4}$) of people that stonelaw asked **did not know** about the geothermal research in our community.

- Trinity HS

Similarly, just under $\frac{3}{4}$ of the people Trinity asked **did not know** about geothermal research in Cuningar Loop.

Q3. How happy are you that geothermal energy is being researched in your community? (Stonelaw)

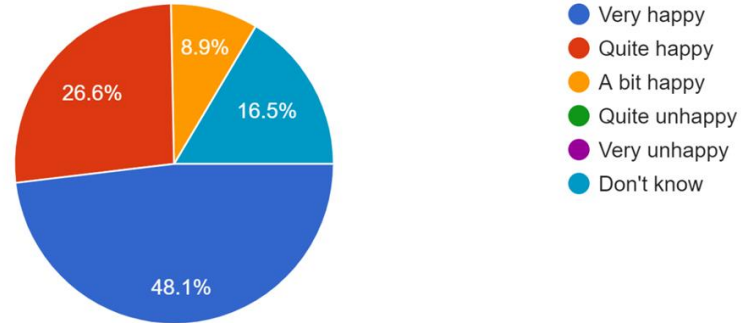
As the stats show, **most of our participants said "Very Happy"** followed up by "Quite Happy", "Don't know" and "A bit happy".

None of our participants said "Very Unhappy".

The **majority of people in the local area were optimistic** about geothermal energy being researched locally.

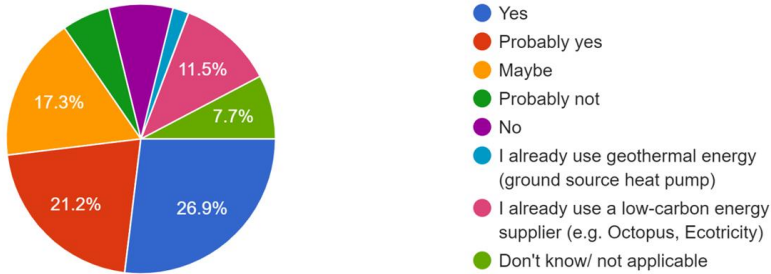
3. How happy are you that geothermal energy is being researched in your community?

79 responses



Q3a: Would you consider switching to a geothermal or low-carbon energy supply in your home? (Trinity)

3a. Would you consider switching to a geothermal or low-carbon energy supply in your home?
52 responses



- The stats show that **nearly half of respondents** said that they would say “yes” or “probably yes” to switching to a geothermal or low carbon energy supply in their home.
- This shows that people are **probably more likely** to switch their energy supply to a more low-carbon supply.

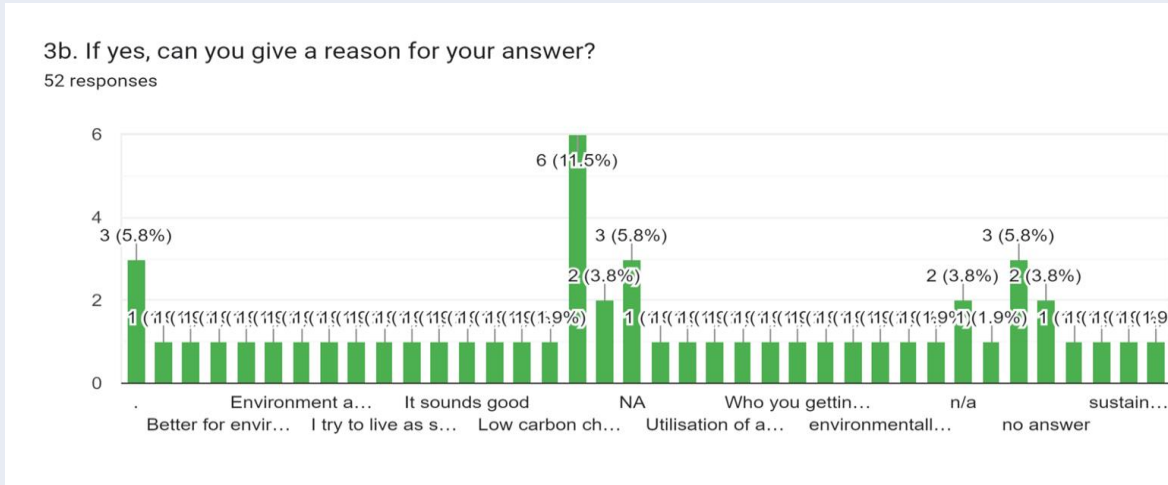
Q3b: Would you consider switching to a geothermal or low-carbon energy supply in your home? If yes, can you give a reason for your answer? (Trinity)

49% of respondents could not give an answer to this question. However, many other people wrote that switching to a low-carbon energy supply at home would be sustainable and good for the environment.

Responses included:

"It's vital we have access to ethical suppliers whose prices are not controlled by the price of oil".

"It's renewable energy and I would also consider changing if it saved me money on my monthly bills".



Q3b: Interview question (Trinity HS)

What do you think the positive impacts of geothermal energy are?



Q4: What barriers are holding you back from switching to a more sustainable energy source for your home? (Trinity)

There is a large majority of people (70%) who are mainly concerned about the following:

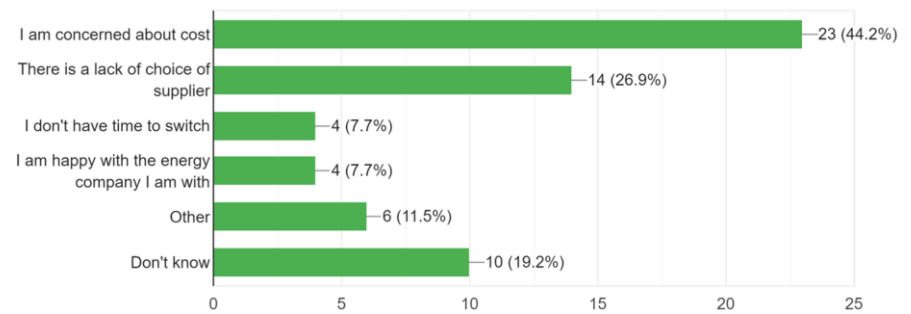
- **Cost**
- **Lack of choice of suppliers**

Nearly 20% of respondents couldn't say what barriers were holding them back from switching.

12% stated that they have other sorts of concerns.

4. What barriers are holding you back from switching to a more sustainable energy source for your home?

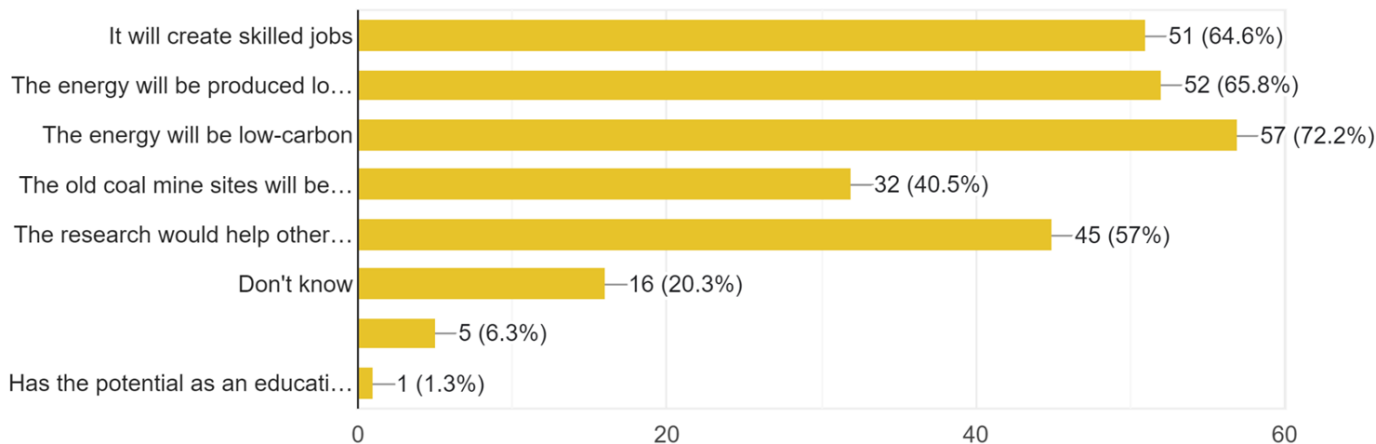
52 responses



Q4. What do you think the benefits of geothermal energy generation are? (Stonelaw)

4. What do you think are the benefits of geothermal energy generation? Tick all that apply. (Checkboxes)

79 responses



Nearly $\frac{3}{4}$ of the people thought a benefit could be **"The energy will be low-carbon"**.

This shows that people know that using geothermal energy can help **prevent climate change**.

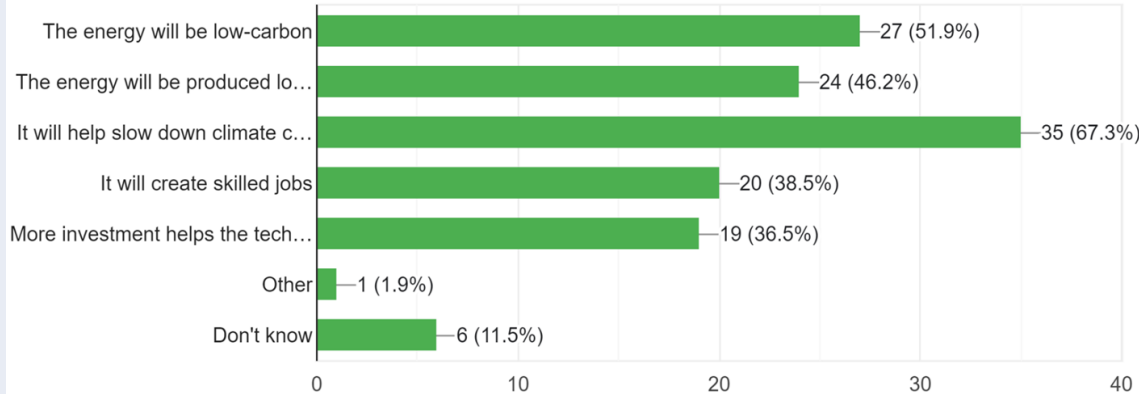
People were also enthusiastic about it **creating skilled jobs** around the community.



Q5. What do you think the positive impacts of using geothermal and low-carbon energy are? (Trinity)

5. What do you think are the positive impacts of using geothermal and low-carbon energy?

52 responses



- 60% of people said that using low-carbon energy will help slow down climate change.
- The rest of people named a wide range of benefits.
- Half of respondents said that the energy would be low-carbon and that it would be produced locally.

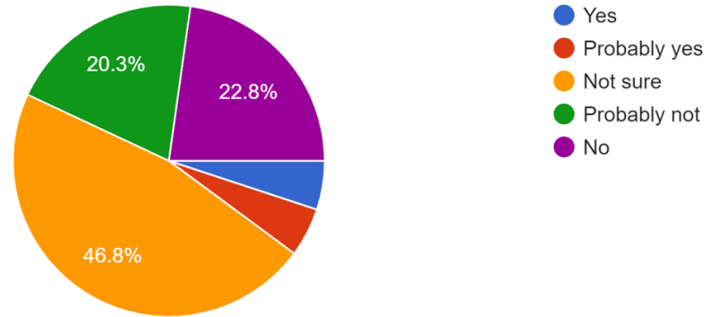
Q5a. Do you think there will be any issues or problems with researching geothermal energy at Cuningar Loop Park? (Stonelaw)

We've found that some people are slightly nervous about this research, as around **1/2 of the community weren't sure of the risks**. They had concerns like the nature and wildlife getting harmed in the process.

However, **nearly 1/2 of the community believed that this research will be successful without any issues or problems along the way.**

5a. Do you think there will be any issues or problems with researching geothermal energy at Cuningar Loop Park?

79 responses



Q5b. If yes, can you say what you think these issues or problems might be? (Stonelaw)

Out of the 10% of people that thought there would or probably would be issues, people were mostly worried about:

- **Damage to the environment**
- **Instability of the ground**
- **Losing access to sites**

Interestingly, one person commented that,

"People have no idea what geothermal energy is, and therefore are hesitant and prejudiced towards it".

possible cave ins, or sink holes due to disturbance of old mines.

Possible damage to the environment?

People like me who have no idea what geothermal energy is, and therefore are hesitant and prejudice towards it

Impact to the local environment, animals etc.

Geothermal sites typically have a shorter life span compared to other methods of generating electricity. The ground in an urban area may become unstable and dangerous if not maintained correctly

Not many people to ask

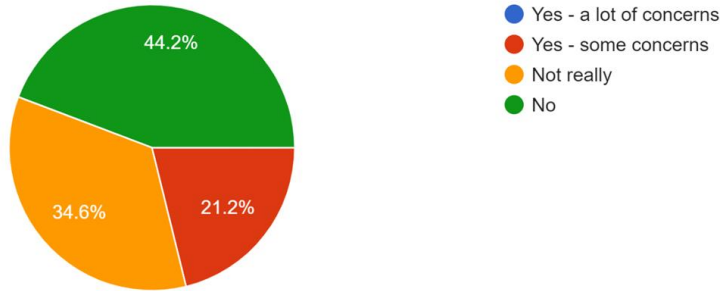
The site is close to housing.

Probably spent money making the park good for the communities it would ruin it

Q6a. Do you have any concerns or worries about using geothermal or low-carbon energy? (Trinity)

6a. Do you have any concerns or worries about using geothermal or low-carbon energy?

52 responses



A majority of roughly 78% have answered to not be overly concerned about geothermal or low-carbon energy.

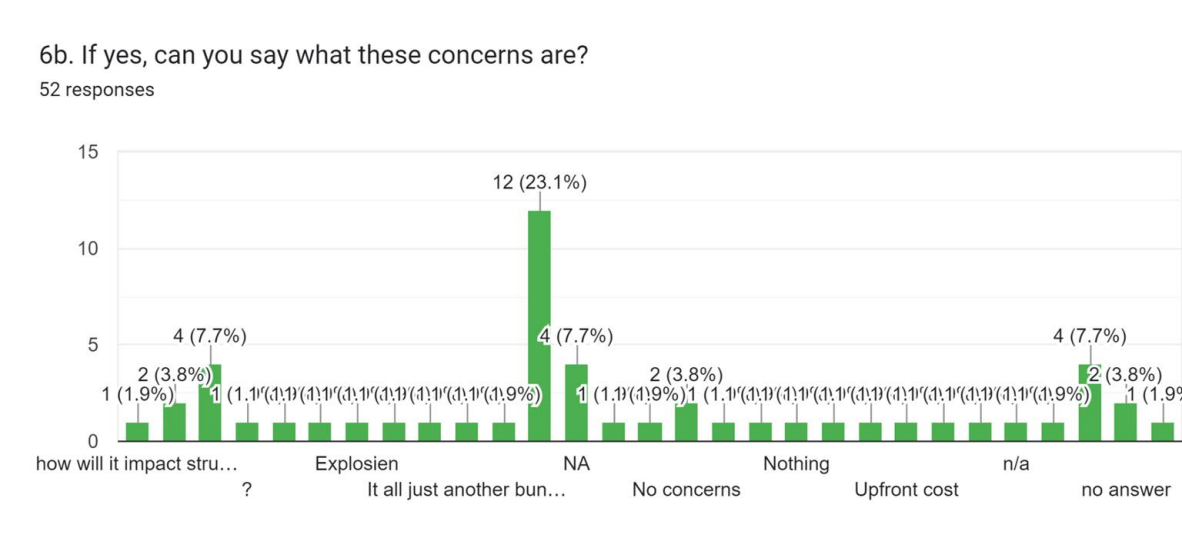
However, the remaining minority, a fifth of respondents, have said they have a couple of concerns.

Q6b. If yes, can you say what these concerns are? (Trinity)

Out of the 20% of people who said they had some concerns, the majority of people were not able to say what these concerns were.

A few people did say that they were worried about:

- how it would **impact homes** nearby
- the earth's crust and the **water table**.



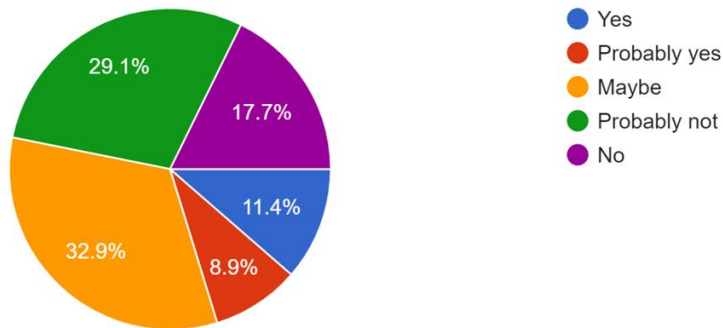
One person worried about the technology being unproven, saying, "We haven't used it on a large enough scale to know about its impact or implications".

Q6a. Do you think Scotland will be able to achieve net-zero carbon emissions by 2045? (Stonelaw)

A third of participants voted **"Maybe"** which was the most popular answer, followed by **"Probably not"** and then **"No"**. **"Probably yes"** and **"Yes"** were the least popular opinions, making up only 20% of total opinions.

6a. Do you think Scotland will be able to achieve net-zero carbon emissions by 2045?

79 responses



These answers surprised us a lot. They reveal that **80% of the sample were not confident at all** about us being able to achieve this target.

Q6b. Can you give a reason for your answer? (Stonelaw)

I think people are not optimistic about the future because:

- They believe politicians are **greedy or ineffective**.
- There are Large emission fuelers like Russia or China etc.
- Change **isn't happening quickly enough**

A third of people still had hope but kept it realistic with "Maybe".

17.7% voted No and the final answer which surprised me was "Yes" with 11.4%.

People don't care about it so will not take the steps necessary to get there

I am unsure at the moment due to the council being unorganized

People in power aren't doing enough to bring about change in regard to the environment.

Because we are working hard

I am unsure as the council changed their climate change target for 2030

I'm not entirely sure because I haven't read or heard about anything that Scotland has done to further reach their goal

Things are not changing quickly enough.

It unfortunately relies on the drive of government and local policy which has been slow to apply green energy policies

Q6b. Can you give a reason for your answer? (Stonelaw)

Other reasons people gave for not believing we can achieve this target include:

- People are **too reliant on petrol cars**
- Governments **don't prioritise environmental policies**
- Low-carbon alternatives, e.g. electric cars, are **too expensive**

As a community/country we are not doing enough quickly enough. What is being done is fabulous but we must do more both locally and globally to save the planet for future generations.

Sadly it appears to have been pushed to the back of the queue by every political party except the Greens. Was really happy to see this survey though as I had no idea it was being researched near where I live and on what is contaminated land (I think!) so this would be a good use.

Achieving zero carbon can only be done if all stakeholders participate fully and use/buy appropriate products, stop producing emissions via farming or manufacturing etc and/or reduce their individual carbon footprint

Depends on the willingness of those in power to stand up to profiteering big businesses and billionaires changing their carbon heavy lifestyles

Needs clear government supported targets

New and positive research like this will increase the rate of decarbonisation.

Q6. Interview Question: Do you think Scotland will achieve net-zero by 2045?



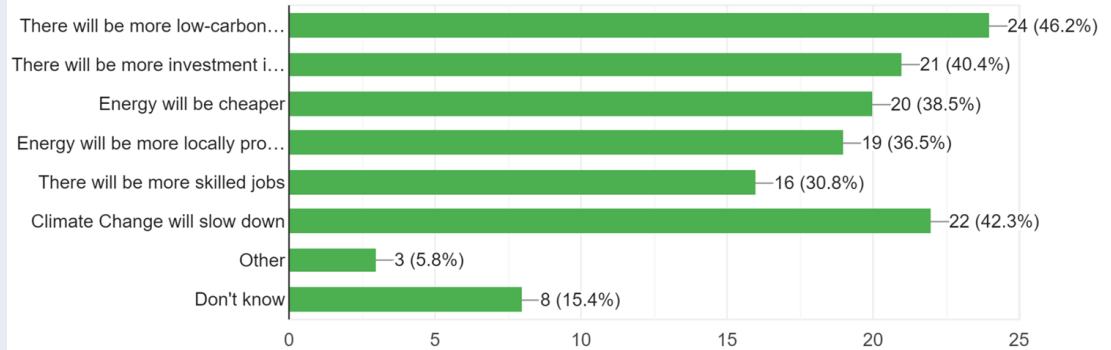
7. What do you think the future will look like with more use of geothermal and low-carbon energy? (Trinity)

Nearly half of respondents believe there will be **more geothermal and low-carbon sites in the future.**

With more sites, more than a third of people also think that energy will be **cheaper and will be produced locally.**

With more use of geothermal and low-carbon energy, **nearly half of people think climate change will slow down.**

7a. What do you think the future will look like with more use of geothermal and low-carbon energy?
52 responses



7b. Interview Question: What do you think the future will look like with more use of low-carbon & geothermal energy?



In summary, we found that...

1. The evidence from Trinity High School and Stonelaw High Schools surveys there was nearly an even split of people knowing and not knowing what geothermal energy is.
1. We found that most people did not know about the research being done in their community.



In summary, we found that...

3. We found that many people were open to the possibility of using geothermal energy or other sustainable energy forms in their homes.
4. One of our charts has shown that people were mainly concerned about the costs moving from gas and a lack of suppliers for a sustainable energy source.



In summary, we found that...

5. People think that the main benefits of geothermal energy is that it will be a low-carbon energy source and that it will create skilled jobs.

Most people have stated to not be overly concerned about the use of geothermal energy.



In summary, we found that....

5. Our surveys told us that 60% of the people who took them thought that using low-carbon energy will slow down climate change. However there was a wide range of answers which mainly included that it will be locally produced.

6. Our surveys have shown that the majority of people are not confident that we will reach net zero by 2045, although some participants were optimistic about our future of reaching net zero.

The reasoning for why people aren't confident with reaching net zero is because they believe that greedy business owners and large contributors (Like Russia, China and the USA) aren't caring enough about this cause.

In summary, we found that...

7. Nearly half of the people thought there will be more geothermal and low carbon sites in the future. With more sites, more than a third of people also think that energy will be cheaper and will be produced locally.

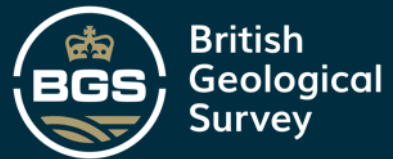
Overall, they are optimistic about a future with more use of low-carbon energy.



Our three calls to action to battle climate change

- Care
- Education
- Action





THANK YOU FOR COMING

Any questions?

