

Thermal Imaging Camera Update to F&GS Committee 01/02/24

Background:

The Climate Emergency Working Group, led by Cllr Alan Chalmers, recommended that providing residents access to thermal imaging cameras could be a very helpful with the cost-of-living crisis and the significantly increasing energy costs.

Following this recommendation two Thermal Imaging Cameras were purchased by the Town Council in March 2023. One suitable for Apple iOS system and one for the Android phone using a USB-C cable. Given the time of year it was not appropriate to launch the scheme until temperatures dropped in November.

Implementation:

During the period between purchase and launch the following was completed:

- Web page was produced which included an online form for residents to complete to request the loan of the cameras. All applications to be received into the admin email account in line with the Castle Pass application process.
- Manufacturer user guides were printed and bound to be given to residents with the cameras when borrowed.
- Thermal Imaging Camera Policy was written and adopted by Town Council.
- Loan Agreement form was produced, which residents would have to sign when collecting the Camera.
- Process for the management of the Cameras was developed and tracking sheets produced.
- Process was piloted with three residents that were aware of the scheme being implemented through the Kenilworth All together Greener Group. Cllr Chalmers had given a presentation to the group about the scheme.

Live date

The Website went live on 23/11/23 with Social Media posts at the same time. That day 10 applications were received. The post was shared on vibes on 27/11/23 following which we had 23 applications overnight. Seventy percent of the applications were for the iOS version and quickly the waitlist for the iOS camera was into March so the decision was taken to purchase two more iOS cameras. These were purchased on 29/11/23 and were delivered and in operation a week later.

Process followed:

- When an application is received the resident is emailed to confirm receipt, advised where they are on the waitlist and given an indication of when the camera is likely to be available for them to borrow it. E.g. Middle of February.
- To keep the pipeline flowing those on the waitlist are contacted the day before or morning that the camera is available. They are encouraged to collect same day with a time agreed, and this has been OK with the vast majority, with many working for home or retired. Where this is not possible the camera have been delivered to residents by staff, out of hours or a date in the schedule is agreed for them to collect and the next person on the waitlist is contacted.
- The resident collects from and returns the camera to Jubilee House.
- They provide photo ID when they collect, sign the loan form. Before taking the camera a return date and time is agreed with resident.
- If a resident fails to return the camera at the agreed time staff will call them to remind them and agree return.

Additional Information:

The introduction of the iPhone 15 has caused an issue. Neither cameras will work with the iPhone 15, even with a USB-C adaptor. This has been updated on the website so that residents are aware. Where we have had iPhone 15 users they have all had an old iPhone or access to an older one through a family member. We expect that FLIR will develop a camera to work with the iPhone 15 and when this happens we will need to invest in an additional camera.

Stats – as at 23/01/24

Data as at 23/01/24			
	No.	%	
iOS requests	43		
iOS completed loans	40	93%	
Android requests	27		
Android completed loans	14	52%	
Total requests	70		
Total completed loans	54	77%	
% iOS requests		61%	Would equate to 2.5 of the 4 Cameras
% Android requests		39%	Would equate to 1.5 of the 4 Cameras

Feedback

We have requested feedback from residents that have borrowed the camera, and the table below shows the number of requests and responses. Where appropriate these have been passed to the Climate Emergency Working Group.

Data as at 23/01/24			
Feedback Requests	45		
Feedback Received	15	33%	

Feedback was captured under 4 key headings and the responses are included below. The feedback has been overwhelmingly positive to the introduction of the scheme.

On the Loan Process:

“After the first call and setting an appointment to pick up the camera, the loan process was quick and easy. You were very Informative of how to use the camera and terms of the loan process were easy to understand.”

“The loan process was very quick and easy. 10 minutes to complete paperwork and be shown how to download the app, use the camera.”

“I stumbled upon a link to apply for the camera via a third-party website, not sure I'd be able to find the link in 12- or 18-months' time. Just thinking of someone else who had no idea that it is available, or how far it has been advertised. As for applying for it and picking it up, I had no problems.”

“The loan process was easy. My wife works from home and could collect, but if it had been just me, I'd have struggled to do so during working hours”.

“When I was unexpectedly offered the camera I should have let someone else go ahead and ask if I could have had it the following week, I was just so busy I didn't have time to use it much!”

I thought the loan process was really easy, especially as you made a home delivery!

Loan process was very straightforward.

Was easy to loan it very straightforward.

The whole process was very easy. I was kept informed every step of the way and everything was clear.

Straightforward and really helpful.

Easy, efficient loan process. great communication.

Firstly, what a great scheme - enabling me to gather valuable information on the thermal characteristics of my house without any financial outlay on equipment or professional services. Like borrowing a really amazing book from a library!

The process was very straightforward. The timescales were clearly explained and I completely understand that the number of devices available constrains availability. Picking it up in person, with a brief intro to the device worked well and everything was explained (either verbally or in the documentation).

The process of borrowing the camera was very easy and communication was great.

On the ease of camera to Use:

"The camera was easy to use and once I had downloaded the app it was ready to take the images".

"Set up took a few minutes, probably a few more than needed as didn't notice the power button initially :)"

"For some reason I was expecting something larger, so was suppressed with it being the size it was. Nevertheless, it worked very well in detecting potential heat loss from the outside of the property (Windows and doors mainly). Useful for finding the hot water pipes under the floorboards."

"We found the camera and app very easy to use".

"I did download the app but apart from seeing the temperature, I couldn't work out how to use it to see missing insulation!"

The guidance notes were comprehensive, but I didn't have to refer to them that much as I found it very straightforward to download the app, to use the camera and access the images.

Despite me forgetting that I'd put the printed guide you provided in my bag and so never looked at it, I found the camera relatively easy to use, although a reading of the guide might have helped me plan my survey photos better as I ended up with a somewhat haphazard approach.

I didn't find the app and machine easy to use though as I didn't understand what the colours meant and there's no instructions on the instructions to tell u what to look for.

The camera is easy to use and is a great idea, particularly for those of us with old houses.

App and Camera were simple to use.

it worked ok with my phone as simply as any other app/camera but was actually a bit fiddly to get good photos/images. But with a bit more time experience I could probably be better.

Once connected, the camera is really easy to use and it's fascinating to see what the images reveal. Cold spots in the house and hot spots outside have enabled me to consider options and priorities for remedial work. All the images taken are stored on my phone, so nothing to transfer before returning the camera.

I did find that I had to google how to use it, so maybe an idiot guide would be useful. The results were fairly easy to understand.

On the outcomes for residents:

"Yes the outcome was very informative regarding my property and has highlighted issues which will need to be dealt with, regarding loss of heat in windows and around the doorways."

"My main reason to use the camera was to identify any gaps / potential heat loss in loft insulation that was installed a couple of years ago. The camera showed that everything was okay in this respect but did show cold areas and significant heat loss on external wall areas as my house has solid walls with no cavity insulation."

"I found the survey useful and interesting, found a few areas that I could effect with minimal cost. The main heat loss was doors and windows."

"It identified our cat flap being very 'leaky' and we've replaced it as a result. I'd have liked to have had the camera still to see what it now looks like but appreciate the need to return it. Thanks for the loan."

Unfortunately, I found it more difficult to interpret the images to understand where there may be issues in my home. I could see differences in colours around windows and doors but really didn't know if the darker areas meant that there was definitely heat loss or if it was meant to be.

I believe I identified areas of cold, so I just need to pass it on to the council to see if they rectify it.

We have done lots of work on our house, so I am familiar with its construction, so didn't identify any new areas of concern. I was able to see how extensions done at different times performed differently in terms of heat loss through the walls. I was surprised that a small extension from the 1980s had very leaky/warm walls.

I think the results have shown there is little else we can do with a house of the age its age. Roof insulated. windows argon filled, walls insulated, doors fitted correctly. etc we will put more lagging on attic hatch/door.

Any additional feedback:

"I personally think this is a great idea, i now have some evidence that the house I rent does require better insulation, possibly new windows, and exterior doors. It has highlight where I do have damp issues that these will need to be addressed with my landlord."

"All in all, very useful and a convenient way to check thermal efficiency without having to spend a large amount buying a camera myself only to use for a short amount of time."

"Don't think there is anything else, other than thank you for the opportunity to borrow it."

"Not very successful I'm afraid but very grateful for the opportunity to use it , that's my fault I didn't have much time! Thank you for the loan and also the opportunity to give feedback."

Overall, I think the loan scheme is an excellent initiative but think it could be enhanced with some support in interpreting images.

Overall, a great experience. Thank you.

The challenge is interpreting data. So, if for example the glass windowpane is 2 degrees cooler than the wall, what does this really mean. You could achieve some of this result by moving your hand around the inside of your house feeling for cold spots on walls etc.

I found it hard to find free software on interpreting the results. I think it is great to make people aware and offer a free service.

In summary, a great device and a great service. I'd recommend it to anyone.

It is a great initiative, anything like this is really practical. Having recently had EPC assessments carried out, they are a joke, so having this as an option is fantastic.

Key learning and future considerations:

- We have been asked by Stoneleigh and Ashow (300 homes) to run the scheme for them if they supplied the camera. They would only be able to afford one camera so would need to buddy up with another similar sized council (e.g. Baginton or Buddenhall) to get the second camera. They do not have the resources to manage the scheme. We have agreed in principle to support them subject to agreement on how the scheme would be managed. This will be investigated, and decisions made over the summer.
- Out of Hours delivery is done now on a staff goodwill basis. There is no need to make it formal and we will continue to do on a need's basis, where resident is working full time and cannot collect during office hours.
- Cameras have only been publicised once and shared once on vibes. Concern around the availability and waitlist (victim of our own success). Feedback from one resident was it was not well publicised which is correct but that was a conscious decision. It is likely that we will publicise once more for iOS but not for Android.
- Do we buy a second Android camera for next year to allow more publicity and more loans? Currently the Android is booked out till middle of March, and we will have to close applications soon.
- There may be a need to purchase a new Camera when (if) FLIR develop a camera for use with the iPhone 15.
- The key finding from the feedback is a guide needs to be developed on how residents interpret the photos that they are seeing. There has been feedback that some residents have not understood what the pictures are telling them and cannot understand how to interpret the colours. This needs to be in place for the scheme next year.

M Wyatt-Smith
Admin & Facilities Officer
23/01/2024