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1 Introduction

This deliverable summarizes the results of the pilot phase of the ECO2 project. The goal of the pilots was to collect feedback from potential users regarding the Act4ECO platform's content and functionality. All pilots followed the same script so that results can be comparable. In particular, all pilots carried out:

- Collection of information regarding the participants (mainly levels of their energy awareness and technological skills);
- Evaluation of the Act4ECO webpage and the registration/sign-in process;
- Collection of comments and recommendations after going through the piloted actions' content;
- (In most cases), collection of comments and recommendations that are specific to each piloted action;
- Collection of comments and responses that reflect what users have actually learned and how they expect that this will alter their energy-related decisions or behaviour.

Finally, the presentation of each pilot concludes with highlighting the main lessons for ECO2.

While the planned pilot in Bulgaria was not completed when this deliverable was finalised, it is expected to follow the same script.

2 Pilots in Denmark

DBT conducted four (4) pilot tests to collect the reactions of potential users to the Act4Eco platform's content. The first pilot took place on 18/02/2020 and included a group of 11 house owners:

- Age group: 35-75 (Primarily 45-55)
- Male/Female: 4/7

The second pilot took place on 04/03/2020, and it included two (2) participants both house owners:

- Age group: 55-65
- Male/Female: 1/1

The third pilot took place on 15/04/2020 and included three (3) younger participants all expected future house owners.

- Age group 20-24
- Male/Female 1/2

The fourth pilot took place on 30/04/2020 and included four (4) participants, all new house owners.

- Age group 28-35
- Male Female 2/2

The details and the results of the pilots are presented in the next subsections.

2.1 First Pilot

This pilot was meant to test not only the Danish version of the Act4Eco platform, but also the translated actions in EngageSuite and the interaction between these two tools. The test was focused on a group of house owners. The total amount of participants was 11 people. As a result of technical difficulties, only three of the four sub-actions within the action theme **“Improve your home”** were tested. These were:

- Improve the air tightness of your home
- Improve your home insulation

- Change or upgrade your windows

The participants were divided into two groups (7+4 persons) and DBT had one person from within the organisation designated to observe their behaviour, and to take notes in this regard. All respondents were given a ticket to the cinema as a way of thanking them for the time they spend (two hours) on testing the action. This strategy made it easier to recruit people for the test.

2.1.1 Self-reflection on the participation

Question 1: Why are you attending today?

I want to learn something new	1
I am interested (curious) about energy consumption / conservation	8
I am working in related fields	0
I want to take part in the ACT4ECO research project	1
I am interested in community activities	0

Question 2: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
6	3	2		

Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
1	4	5	1	

Question 4: How do you rate your skills in technology?

<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>
		4	3	4

Question 5: What are your views on the homepage?

Group 1:

- Very user-friendly – “Spelled out”

- Nice colours (design)
- Some issues regarding the format and “links” that doesn’t work.
- The top-bar disappears at times.

Group 2:

- In general, very pleasing
- Great at maintaining focus for the user

Question 6: What are your views on the sign-in?

Group 1:

- Same as other websites
- A bit annoying that you have to create a user/sign-in before you can get access to the content (can we provide a version where it is unnecessary to create a user?)

Group 2:

- It is ok, but needs translation

Question 7: What are your views on Action/s “improve your home”

Group 1:

- Maybe a bit too “Spelled out”.
- The sub-actions contain a lot of relevant knowledge
- Looks like a PowerPoint-presentation. The feedback provider wished the content to be presented in more of an article looking manner.
- Some testers would like some drop-down menus instead of the “line” above the content where you can find the other topics of the sub-action.
- A bit too much text – not on the individual pages, but in the end/after you finished a sub-action.
- You learn a lot by reading the action texts.
- Some would just Google the things they need answers to, instead of creating an Act4Eco-account and explore the actions.

- One found the KPI questions weird because you can't answer them when you are in the middle of completing the action.
- Very informative
- Some testers would like a "wish-list"/a place they can write notes about what actions they would like to further investigate in their home, during the time they click through an action.
- If you find a specific topic/"sheet" interesting, they would like a "get to know more about this"/"what does the expert say?"-button where you could be redirected to a page which is more informative.

Group 2:

- Very user friendly
- The amount of text both in general and on each slide is very fitting
- Very relevant knowledge for house owners
- Very informative
- Easy understandable
- Easy and useful navigation
- The translations are great and understandable
- The content is not too heavy, even though the subject normally is very boring
- The combination of images and pictograms are working well
- There is a big advantage in the fact that everybody can take this e-learning course. If you already know something, you can easily navigate to the next section, though that can potentially lead to loss of knowledge if you skip too fast
- "I learned a lot, and I now know that I need more and new insulation in my home"
- You could potentially link YouTube videos at the end, for more information on how to change windows in "real life".
- A search function could be really useful. Hence search for "U-value" and you will be guided to the correct action.

- An overview of the estimated cost for improvements would be really valuable and motivating. This would give more motivation for users to both take the course but also acting in their own life.
- I would like to be assured that I get more info on the next slide.
- A feedback function on the quizzes would be nice
- Are there potential cheap fixes that could be told to the users? Hence having the money/cost perspective in mind
- Problems with the text on the front page from the actions “Improve your home” and “Making my own energy” it cuts over the picture
- Needs translation of the login and some of the different elements outside of the page, as consent, loading etc.

Question 8: How do you feel about using eLearning tools?

No negative representation among the respondents. However, some test persons left this question blank.

2.1.2 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
1	7	3		

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	7	1	1	

Other Comments:

- Needs more focus on the environment; it often only says something about saving money.
- Very manageable. Informative.

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3	6	2		

Other Comments:

- Easy to navigate on the platform.

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3	8			

Other Comments:

- Very user-friendly

2.2 Second Pilot

This pilot was meant to test not only the Danish version of the Act4Eco platform, but also the translated actions in EngageSuite and the interaction between these two tools. Both participants in this pilot had a high-level education and many years of experience, in some instances also with energy related topics. Furthermore, the two participants were part of an eco-community called Munksøgaard, which is an eco-community in the outskirts of the city of Roskilde located about 25 km west of Copenhagen, Denmark. The Munksøgaard community includes 100 row houses and was established in year 2000. The key idea behind the community was to integrate environmentally friendly technologies and practices in the construction of the houses as well as in the operation. The residents have planned the development with the assistance of professionals, and they are in control of the management of the settlement. By inviting homeowners from the Munksøgaard community to the test, we were able to get energy conscious homeowners to test our actions.

As a result of technical difficulties, only three of the four sub-actions within the action theme “Improve your home” were tested. These were:

- Improve the air tightness of your home
- Improve your home insulation
- Change or upgrade your windows

DBT had one person from within the organisation designated to observe the verbal behaviour of the participants, and to take notes in this regard. All participants were given a ticket to the cinema as a way of thanking them for the time they spend (two hours) on testing the actions. This strategy made it easier to recruit people to the test.

The test was completed in Danish, as all the actions had been translated beforehand, but the sign-in/create user part of the test featured some English, as this is currently the only way to create a user account on the platform. This however didn't bother the respondents, as the general English language level in Denmark is quite high.

2.2.1 Self-reflection on the participation

Question 1: Why are you attending today?

I want to learn something new	0
I am interested (curious) about energy consumption / conservation	1
I am working in related fields	0
I want to take part in the ACT4ECO research project	0
I am interested in community activities	0

Other reasons:

- One respondent commented: *"Would like to help"*.
- One respondent (not counted above) chose the three top options.

Question 2: "I am energy aware e.g. I am interested in energy use in the home, I read my energy bills"

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
2	0	0	0	0

Comments: A high level of energy awareness was present among the testers.

Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
0	2	0	0	0

Comments: -

Question 4: How do you rate your skills in technology?

<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>
0	0	0	1	1

Comments: -

Question 5: How do you feel about using e-Learning tools?

No negative representation among the respondents. However, one test person wrote a question mark in this box.

- “Fine”
- “?”

Question 6: What are your views on the homepage?

- The “modules” on the website need to fit a normal screen display. It looks bad when you can see 1½ module, no matter how much you try to shape your screen display.
- The top menu hides too quickly.
- There is English and Latin text in the Danish version.
- Needs more options available for what I want to learn.
- Who is the target audience, what do they need and is there something they can skip?

Question 7: What are your views on the sign-in?

- It takes too long before you can get started – too many steps.
- Not easy. Why do it?
- Some would stop during this process because you must create a user account.

- Inform the user that the password must be at least 8 characters long BEFORE you ask for creating the password.
- You don't receive a link in the Mozilla Firefox mail system.

Question 8: What are your views on Action/s "Improve your home"?

General action feedback:

- Some words (and sentences) need to be changed, as they were being considered too didactical. One respondent, who works at a Danish University, made it clear that following words should be replaced (at least in Danish):
 - "Learning curve"
 - "Airtightness"
 - "Learning goals"
 - "Now you have been fed with some nice, delicious knowledge!"
- The Quiz modules need to make sense – so does the "Well done" slides.
- Great illustrations.
- For the process-oriented type of people, this webpage is an okay tool, but for the solution-oriented type of people, it is too time-demanding to first create a user account, and then click your way through the platform to finally reach the desired knowledge. Is it possible to create two "tracks"? It would also be good with a "Practical" Vs. "Technical" track where you can choose either, and learn more.
- More feedback options. Add "None of the above" or "Don't know" to the palette.
- KPI questions: Annoying and not clear that it is "feedback" for us. It has to make sense.
- The button "Back to action themes" directs the user to an English website.
- "Sounding like a professional" - Change to "Learn to talk with professionals" or likewise.
- After you completed an action, you are often asked if you have done something. This is rather difficult to answer if you just completed an action.
- If we want people to prefer one option instead of another, it is important to have strong(er) arguments.

2.2.2 Action-specific feedback

Improve the air tightness of your home:

- Maybe it would make sense to gather the “intro” slide and the “learning goals” slide.
- Before you start any action, it would be nice if you could choose whether you are constructing a new building or retrofitting an old one. Based on the option the user chooses, different (relevant) materials would be presented.
- “Efficient” - What does it mean? Environmentally or economically? What does it mean compared to the production of new insulation material?
- The text that says that an airtight house keeps out insects is funny, but redundant.
- Cracks and other damage to the foundation of the building can have a huge impact in terms of air tightness and insulation of the house. More emphasis on this is needed. E.g. what to look for and how.

Improve your home insulation:

- Put more emphasis on the choice between insulating the bottom vs. the top of the roof. What is the difference? Loose-filling should also be mentioned here, as it is mentioned earlier as well.
- One respondent desired a broader environmental perspective: assessment of what it cost for the environment to produce the different types of insulation materials.
- More focus on indoor climate and health. What health risks are associated with the use of (X) type of insulation material?
- It would be great for an illustration that displayed where you should add the insulation.
- It would be nice if the users were presented with some “alternate” insulation types/eco-opportunities.
- Insulation in electronic outlets: How to do it? Is it legal? It would be nice with a visualization of how you change it safely.
- Put more emphasis on the sound insulation benefits as well.
- “Don’t run away by the sight of the title!” is a bad way to introduce this action.
- Attics and crawlspaces don’t fit that well together. Should be separated in the presentation.

Change or upgrade your windows:

- Add something related to energy-class and window type.
- Maybe it would make sense to gather the condensation slide and the slide with the magnifying glass.
- The slide where the “Wind-effect” and the “Stack-effect” are presented are a bit redundant, as they are being elaborated further in the action. Maybe cut that slide out and gather them with the slides where these effects are already being explained and illustrated.
- The testers would like a quick evaluation/summary of what makes the R, K and U-value relevant. Maybe put these in a separate section.
- (In continuation of the text above) It is difficult to understand the difference on R, K and U-value. It would be nice with a simple scheme that summarizes their attributes and how they affect each other. It would also be nice if the examples are more relatable to what we just learned.
- Pane Spacers – Add an arrow so the user can see where/what it is in the window anatomy.

2.2.3 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	2	0	0	0

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	1	0	0	1

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	1	1	0	0

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	1	1	0	0

2.2.4 Observing the verbal behaviour of the testers

Only verbal behaviours were observed during this test as there were a lot of discussion and oral feedback to the platform. As previously mentioned, this test were focused on receiving in-depth qualitative feedback and since this feedback were very extensive and frequent, only the verbal behaviour were observed.

VERBAL BEHAVIOURS

PARTICIPANT ID	Seeking Clarity in Information (e.g. asking on comments what something means)	Supporting and Building solutions (e.g. reinforcing, agreeing, and extending what others say)	Suggesting solutions (e.g. providing answers to problems)	Raising problems (e.g. troubleshooting, highlighting difficult issues)	Disagreeing (e.g. opposite opinion to others in the group)
1					-

Notes	Both respondents started to discuss possible solutions they could apply to their community, as well as their current solutions.	Consensus most of the time.
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2				-
Notes			Participant 1 & 2 started planning their future possibilities for retrofitting the buildings within their community.	Consensus most of the time.

2.2.5 Focus group questions

The focus group interviews were conducted collectively, which means that the following paragraph contains feedback from both testers. Elaborative feedback can be found above this paragraph.

Engagement (repeat for Sign-in / Action sections)

Question 1: What did distract your attention during your use of ACT4ECO?

The webpage has to fit a “normal” screen display.

Question 2: What made you disconnect from ACT4ECO?

The sign-in/create user account process.

Ease of Use (Navigation / Sign-in / Actions)

Question 1: How ease did you find it to sign into ACT4ECO?

Not easy. Why do it? Some would stop because they should create a user account before they get access to the content. It would be nice if you shouldn’t log in.

Question 2: How easy was it to complete the Action section/s of ACT4ECO?

Easy, but the next/previous buttons are placed too far to the sides.

Question 3: Which part of ACT4ECO was the most challenging for you?

The sign-in process and the next/previous controls

Usefulness

Question 1: What insights are you taking away with you today?

I really like the “Cost, efficiency etc.” part of the platform.

Question 2: What will you say to family and friends about your ACT4ECO experience today?

-

Question 3: How useful was the ACT4ECO information for you?

I would find a more technical platform e.g. The Danish Institute of Technology.

Question 4: What did you learn from ACT4ECO today?

Things I already knew were refreshed.

Question 5: Do you plan to make any changes at home to save energy after today?

I would use the platform to enhance the general knowledge level of the community before they make a decision of where they want to act. This could be a dialogue-creating tool for them.

2.3 Third Pilot

This Pilot test was meant to test not only the Danish version of the Act4Eco-platform, but also the translated actions in EngageSuite and the interaction between these two programs. This test were conducted with the assistance from a younger generation than the previous DBT has utilized for testing purposes, which means that all age groups should have been covered at this point of testing.

Three of the four sub-actions within the action theme “**Improve your home**” were tested. These were:

- Improve the air tightness of your home
- Improve your home insulation
- Change or upgrade your windows

The respondents for this test were recruited with some help from a family member of one of the employees in DBT. Through this channel, the family member recruited some younger and future house owners.

The test were completed in Danish, as all the actions had been translated beforehand, but the sign-in/create user part of the test featured some English, as this is currently the only way to create a user on the platform. This however didn't bother the respondents, as the general English language-level in Denmark is quite high, and weren't an obstacle in terms of creating accounts on Act4Eco.

2.3.1 Self-reflection on the participation

Question 1: Why are you attending today?

I want to learn something new	3
I am interested (curious) about energy consumption / conservation	1
I am working in related fields	0
I want to take part in the ACT4ECO research project	0
I am interested in community activities	1

Question 2: "I am energy aware e.g. I am interested in energy use in the home, I read my energy bills"

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
0	3	0	0	0

Comments: A high level of energy awareness was present among the testers.

Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
0	2	1	0	0

Comments: -

Question 4: How do you rate your skills in technology?

<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>
0	0	1	2	1

Comments: - All respondents rated their skills in technology as average or above. The interest in i.e. reading energy-related materials voluntarily were however fairly low

Question 5: How do you feel about using e-Learning tools?

No negative representation among the respondents. However, some test persons left this question blank.

Comments:

- "OK"
- "Fine"
- "I am fine with that"

Question 6: What are your views on the homepage?

- Construction market-like website
- If it's about something eco-friendly then she would use some other colors
- Didn't like having to log in. Lost interest quickly. Especially if it's a page that should inform people
- Logo color is identical to the rest of the website - it's cool.
- Good with headlines and pictures
- Seems it is cool with costs, impacts etc.
- Great video. Very educational. Especially when it's a topic that isn't already that interesting.
- Likes the font.
- "Go to top" Is a need feature.

Question 7: What are your views on the sign-in?

- Everyone thought they were signing up when they had pressed the “sign up” button. But they had to struggle to find the “create user” part – It needs to be more visible.
- Fine and easy with Facebook, Google+ etc. As a create user thing.
- Good to have to enter password 2 times.
- Strange that the validation email does not come from Act4Eco, but from Engagesuite.
- "Go back to site" EngageSuite does not lead the user back to Act4Eco.
- Annoying that you get a LINK but not a HYPERLINK when you sign up. It does not work in Outlook, but in GMAIL you get a link.
- You do not bother to read all the text to log in. Would it be cool with a little “?” or “*” in front of local storage that you can press or hold your mouse to read it.
- If you still have to log in it would be great with a "Log in" + "Create user" button, in order to minimize the risk of misunderstandings.
- Why do things disappear from the top after logging in?

2.3.2 Action-specific feedback

Improve the air tightness of your home:

- Annoying having to accept local storage all the time
- Text stands too close when approving local storage
- Why "Accept terms of use" so late in the process? Why not do it when you have set up so that you are covered within all the aspects.
- Annoying: one respondent could not read / see the "next" sign. And it has been placed too far to the right side.
- One participant had to change computer. He could simply not initiate the test.
- It could be great if you could ‘check’ more than just one option. There may be several reasons for being on the platform.
- One would like to have ‘dots’ under the headings

- Maybe ask for some more small videos or similar that can explain what the action is about. The picture with the wind tab is a bit boring.
- No feedback when answering the questions. Why not?
- See if your house has leaks: Quiz function erroneously created when you need to "In addition to unusually high heat and / or air conditioning bills, here are some signs that may indicate leaks in your home:"
- Likes the "How to fix leaks yourself" part - Good with pictures and practical descriptions of how to do it. Very close to the user of the platform.
- Danish descriptions of the illustrations are needed.
- Would be smart if the platform suggested what you could do on the basis of what you ticked off, in terms of what problems you have in your own home.
- If you are looking for solutions to solutions to specific problems then not many people will choose this platform, but rather a shorter article from Bolius or similar.
- More focus on one's purse rather than the environment. It works better.
- It could be great with some people (a-la consumina, etc. The carpenter, climate-nerd, the economist etc.)
- I have contacted an expert – the formulation is a bit strange.

Improve your home insulation:

- Good to present the HEAT bill first. It focuses more on the individual.
- "I want to build a house when I see and read the illustrations"
- "Congratulations" is perhaps a slightly "over exaggerated" word to use?
- What do we need "if there is an error, please tell us", for?
- At the end, there is an "Error" on a slide. Maybe a picture?
- It could be great to have a "string of words" if one exists, so that one can more easily remember the difference in R, K and U values.

Change or upgrade your windows:

- Good pictures.
- Strange with the "U" image below U value. Can a better alternative be found?
- Good that there are paragraphs at longer paragraphs, that makes it a little easier to digest.
- A little inaccurate formulation of what is meant by "the unit" when condensing?
- If you want to avoid getting too boring to read, change or play with the colors a little more.
- This action was easier to complete than the others. Maybe because it was more interesting and relevant to me.

2.3.3 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	1	1	1	0

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	2	1	0	0

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	1	1	1	0

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	2	0	1	0

2.3.5 Focus group questions

The focus group interviews were conducted collectively, which means that the following paragraph contains feedback from both testers. Elaborative feedback can be found above this paragraph.

Engagement (repeat for Sign-in / Action sections)

Question 1: What did distract your attention during your use of ACT4ECO?

The color choices were not so inviting. Reminds one of IKEA. Green would be better suited to energy

Question 2: What made you disconnect from ACT4ECO?

-

Ease of Use (Navigation / Sign-in / Actions)

Question 1: How ease did you find it to sign into ACT4ECO?

Very Complicated.

There could be a little more text in the mail you received when you registered. For example, a logo and a cute message. The other/current one is similar to "Scam". USE the name of the page and NOT EngageSuite!

Question 2: How easy was it to complete the Action section/s of ACT4ECO?

Easy enough, but quite heavy. It was made clearer by being able to follow your own progress and by splitting it into shorter texts.

Question 3: Which part of ACT4ECO was the most challenging for you?

Consensus on Sign in!

Group Dynamics

Question 1: What helped you to understand the content and activities on ACT4ECO?

The pictures / illustrations helped a lot. Good coherency between the headline and the images.

Question 2: What additional supports would you recommend?

Some videos. You must receive a feedback if you answer correctly. Leverage people's competitiveness! Give points.

Question 3: What was it like for you working in a group today?

Good because you could talk together. Especially when you are a group where you know each other. Looser tone.

Usefulness

Question 1: What insights are you taking away with you today?

I've learned more about how to decorate your home to make it more energy-friendly, and how to save money on it (without having to do a lot)

Would like a more detailed how-to guide on how to do things and what to apply. More DIY guides and step-by-step guides.

Question 2: What will you say to family and friends about your ACT4ECO experience today?

Would maybe tell about the platform if people said they had problems with their windows or the like. It is cool for "do-it-yourself" men to have a "reference work" like act4eco

Question 3: How useful was the ACT4ECO information for you?

Not so useful when renting. But now they know when they move on from their apartment life. Good to know the part with condensation.

Question 4: What did you learn from ACT4ECO today?

A little about how to economically improve the energy efficiency of my house.

Question 5: Do you plan to make any changes at home to save energy after today?

Yes, maybe they will give a suggestion to their landlord in order to take action regarding their windows.

Reflection

Question 1: What are your recommendations for improving the ACT4ECO eLearning platform?

Easier login access. More videos. Greater focus on cost and why it should benefit the individual to know these things. More step-by-step help. Other colours on the platform.

Question 2: What are your thoughts about using ACT4ECO in the future?

Would fit well as teaching material / course for High Schools in a subject week. It's a good source. If you have some bad windows in the future you might want to use it.

Question 3: How would you recommend others to use ACT4ECO?

For teachers who have to work with climate. Learning course or teaching. Real estate agents could use it to give advice on how to increase their property value by doing some things.

2.4 Forth Pilot

This Pilot test was meant to test not only the Danish version of the Act4Eco-platform, but also the translated actions in EngageSuite and the interaction between these two programs. This test were conducted with the assistance from new home owner to give another viewpoint of the actions and the platform.

One of the four sub-actions within the action theme “**Improve your home**” was tested, due to the other pilots have tested the 3 other actions thoroughly. The tested action was “Upgrade your HVAC system”.

The respondents for this test were recruited through the network of one DBT’s employee. The test were completed in Danish, as the action had been translated beforehand, but the sign-in/create user part of the test featured some English, as this is currently the only way to create a user on the platform. This however didn’t bother the respondents, as the general English language-level in Denmark is quite high and weren’t an obstacle in terms of creating accounts on Act4Eco.

2.4.1 Self-reflection on the participation

Question 1: Why are you attending today?

I want to learn something new	4
I am interested (curious) about energy consumption / conservation	1
I am working in related fields	1
I want to take part in the ACT4ECO research project	0
I am interested in community activities	2

Question 2: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
1	3	0	0	0

Comments: -

Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
1	2	1	0	0

Comments: -

Question 4: How do you rate your skills in technology?

<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>
0	0	1	2	1

Comments: -

Question 5: How do you feel about using e-Learning tools?

All participants had no problems with e-learning tools. And were generally positive towards the concept

Question 6: What are your views on the homepage?

- The colors are quite nice
- The colors are not very similar to other websites
- The website does not signal “eco friendliness” or environmentalism.
- The sliders are cool
- I like the estimated time, cost, effort etc.
- The pictures are quite nice
- Like the lean look
- Nice that you can see most of the website by just scrolling
- Some things were English, should be translated

Question 7: What are your views on the sign-in?

- It is not very easy to navigate.
- The red text makes me nervous
- There needs to be a more visual box for creating new account.
- Would be nice to be able to login by Facebook.
- One user noticed there were no “I forgot my password” option
- There needs to be a lot of improvements on the login
- The verification email was in English as well. Should be translated
- The verification link could be shortened.
- General confusion about what “EngageSuite” is

2.4.2 Action-specific feedback

“Upgrade your HVAC-system”

- The content is very good for people with limited knowledge
- It evolves nicely as you get more and more knowledge
- The pictures are very good for the understanding, but there could be better ones instead of pictograms.
- The language seems quite nice. Understandable but not in a professor-way
- The theme is quite cool
- I like the pictures on the same side, and the fact that each text box is so short
- There could be more knowledge in this action, or reference to more knowledge
- I would like to know what kind of contractor I should contact
- Where is this information verified from?
- One slide was not translated correctly
- The navigation should be next to the action, not the edge of the window

- The zoom function is a bit weird, opens a huge window.

2.4.3 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	1	1	0	0

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
1	2	1	0	0

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	2	0	0	0

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	2	0	0	0

2.4.4 Focus group questions

The pilot was performed online, so there was no collected focus group feedback from this test. One test person said that it would be nice to show to a class or a collection of people in their department, so discuss the information, and how to use it.

2.5 Important lessons for ECO2

The pilot results indicate that ECO2 needs a strategy to overcome the hesitation of potential users to create a user account before being able to explore the platform's content. One option is to provide a preview of the content or a detailed list of its modules. The latter would also motivate users that find off-putting the fact that they have to follow a complete and linear path of slides before getting to the part of the content that they find most interesting.

Furthermore, for people with already a good understanding of energy-related matters, the content acts mainly as a refresher or an opportunity for discussion. This means that the upscaling

activities should target people with low levels of energy consciousness and/or knowledge in energy aspects.

3 Pilots in Greece

For the implementation of the pilot, HEBES involved members of the Techno-economics of Energy Systems Lab (TEESlab) of the University of Piraeus:

- Age group: 22-45 (Primarily 25-35)
- Male/Female: 4/2

All participants in the pilot had a high-level education and familiarity with energy systems and technologies. The tested action was the “Smart Consumers” one. Due to the advanced nature of this action, it was considered that involving users with a certain understanding of energy efficiency matters would significantly help identify weaknesses in the content.

The tested sub-actions were:

- Learn how to use your thermostat (including a presentation on setback strategies)
- Learn how to read the energy label of your new heating or cooling system
- Basic things to know about your heating and cooling system

The test was carried out in Greek, but all content was presented in English. That was not a problem because all participants were fluent in English.

3.1.1 Self-reflection on the participation

Question 1: Why are you attending today?

I want to learn something new	0
I am interested (curious) about energy consumption / conservation	0
I am working in related fields	0
I want to take part in the ACT4ECO research project	6
I am interested in community activities	0

Question 2: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
2	4	0	0	0

Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
2	4	0	0	0

Question 4: How do you rate your skills in technology?

<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>
0	0	0	1	5

Question 5: How do you feel about using e-Learning tools?

All participants appreciated the usefulness of e-learning tools, and some of them have already used similar services to learn about energy modelling or software programming.

Question 6: What are your views on the homepage?

- Exciting when you first see it, but lacks information to make you stay and navigate it.

Question 7: What are your views on the sign-in?

The sign-in was not tested. The content was presented in the form of slides because we prioritized the spent time towards discussing the content's details.

Question 8: What are your views on the "Smart Consumers" action?

General action feedback:

- Interesting collection of useful things to know, but it does not look or feel like an e-learning module.
- Everything would probably work better if they were presented as a series of articles.
- One approach could be to split the content into "what to do" (practical advice) and "why do it" (underlying theory). Right now, it seems that the content is heavy on theory and light in actionable advice.
- If the goal is to convey theory, maybe a "How it works" section can be added for all HVAC-relevant content.
- Everything feels very static; users need some form of interactivity otherwise it becomes boring fast.

3.1.2 Action-specific feedback

Learn how to use your thermostat:

- The content includes some very interesting information. It would have worked better if it was presented as a series of articles that deal with a specific aspect each time and gradually progress in difficulty.
- Simple and complex ideas coexist in a few slides. There should be a more linear progression in difficulty.
- The setback strategy part would benefit from some tables or calculations. It lacks actionable advice. An interactive widget would be great addition here.
- The visuals are lacking. They don't offer something in terms of information or aesthetics.

Learn how to read the energy label of your new heating or cooling system:

- A lot of useful information.
- The sequential way of navigating through the content does not make sense. Nobody learns about labels for the sake of learning. It would be much better if there was a way for users to see only the part of the content that they care about.
- The content mixes theory (things that for some users may be useful to know) and practical advice. Maybe split the content into an advice and a theory/e-learning part.

Basic things to know about your heating and cooling system

- Great arguments to showcase why theory matters.
- It should be part of another sub-action.

3.1.3 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	6	0	0	0

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	0	3	3	0

Question 3: I found the ACT4ECO content links were easy to find

-

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
0	0	6	0	0

3.1.4 Focus group questions

The focus group interviews were conducted collectively, which means that the following paragraph contains feedback from all testers.

Usefulness

Question 1: What insights are you taking away with you today?

HVAC systems are complicated machines and the more consumers understand about them, the more efficiently they can use them.

Question 2: What will you say to family and friends about your ACT4ECO experience today?

Revisit the manuals of our HVAC systems.

Question 3: How useful was the ACT4ECO information for you?

Quite useful.

Question 4: What did you learn from ACT4ECO today?

There are things that most people don't know about their HVAC systems.

Question 5: Do you plan to make any changes at home to save energy after today?

I would be more mindful when using my HVAC systems. There is a reason all these buttons were put on their controls.

3.1.5 Important lessons for ECO2

The pilot results indicate that the content tends to mix recommendations with theoretical knowledge. Splitting these two aspects could help better target the potential users: some users care only about practical recommendations and have no desire to follow a lecture, while others may be more interested in the underlying theory.

Furthermore, the platform is not as interactive as people have come to expect from e-learning platforms. As a result, we may benefit from adopting a tone that resembles more to an article and less to a lecture on energy know-how.

4 Pilots in Italy

Sinergie conducted two (2) pilot tests to collect the reactions of potential users to the Act4Eco platform's content. The first pilot took place during 12-17/02/2020, and it included 20 participants:

- Age group:
 - 18-24: 3
 - 25-35: 5
 - 35-44: 5
 - 45-54: 3
 - 55-64: 1
 - 65+: 3
- Male/Female/Prefer to not say: 13/6/1

Group name	Participants
Sinergie_1 (Sinergie's staff not involved in ECO2)	6
Reggio Emilia 1 (people living in Reggio Emilia)	4
Sinergie external collaborators	2
GS1 (Reggio Emilia secondary school teachers)	3
Fai da te group (DIY group on Usenet)	5

The second pilot took place during 26/02/2020 – 03/03/2020, and it included 9 participants:

- Age group:
 - 18-24: 1
 - 25-35: 4
 - 35-44: 1
 - 45-54: 1
 - 55-64: 1
 - 65+: 1
- Male/Female: 5/4

In addition, a usability test took place on 26/02/2020 with five (5) participants. Finally, a validation test took place on 26/02/2020 by one (1) engineer.

The details and the results of the pilots are presented in the next subsections.

4.1 First Pilot

The tested sub-action was the “Improve the air tightness of your home” (slides in Italian). The results were collected through the online survey at: <https://forms.gle/dat4WSb1NCHbrytJ9>.

Next, the demographics of the participants are summarized:

Question 1: Where do you live?

Emilia Romagna	14
Lazio	2
Veneto	2
Piemonte	1
Abroad	1

Question 2: What is your education level?

<u>Lower secondary education</u>	<u>Upper secondary education</u>	<u>Post-secondary education</u>	<u>Short-cycle tertiary education</u>	<u>Bachelor or equivalent</u>	<u>Master or equivalent</u>	<u>Doctoral or equivalent</u>	<u>Other</u>
1	1	1	2	5	6	3	1

Question 3: What is the level of your household's income considered from the viewpoint of meeting your household's needs?

<u>Very poor</u>	<u>Poor</u>	<u>Insufficient</u>	<u>Fair</u>	<u>Good or very good</u>
	1	3	6	10

Question 4: What type of dwelling do you currently live in?

<u>Apartment</u>	<u>Detached house</u>	<u>Semi-detached house</u>	<u>Other</u>
9	6	4	1

Question 5: Who owns the dwelling you currently live in?

<u>I and/or my spouse</u>	<u>Other relatives</u>	<u>Private landlord</u>	<u>Private or social company</u>	<u>Other</u>
12	2	5		1

Question 6: What kind of region do you currently live in?

<u>Mainly rural</u>	<u>Intermediate</u>	<u>Mainly urban</u>
6	8	6

Question 7: Was your house renovated in the last 10 years?

<u>YES</u>	<u>NO</u>
7	13

Question 8: Is your house thermally and/or acoustically insulated?

<u>NO</u>	<u>Only thermally</u>	<u>Only acoustically</u>	<u>YES, both</u>
10	6	1	3

Question 9: Are the windows in your house insulated? And if so, how?

<u>Yes, double glazed windows</u>	<u>Yes, triple glazed windows</u>	<u>Yes, insulating film</u>	<u>No insulation</u>
13	2		5

Question 10: What is the form of heating in your current dwelling? Mark all which apply.

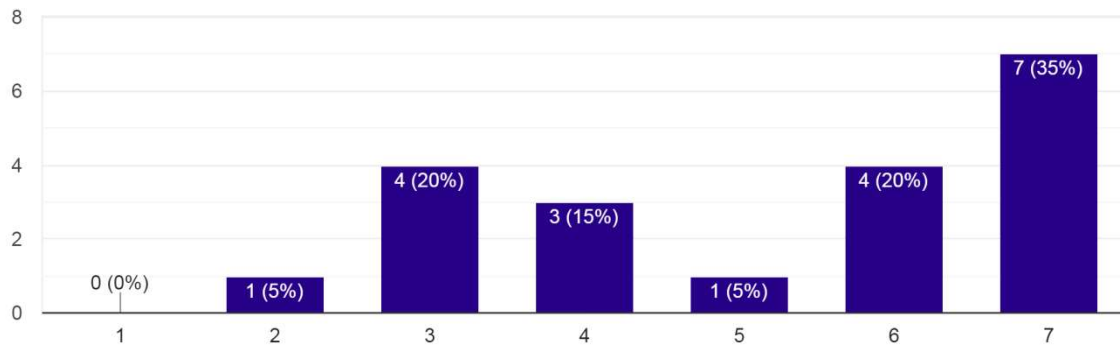
<u>District heating</u>	<u>Direct electric heating</u>	<u>Electric storage heating</u>	<u>Oil or gas heating</u>	<u>Central heating systems</u>	<u>Ground source heat pump</u>	<u>Air conditioners or air-to-air pumps</u>	<u>Auxiliary systems</u>	<u>Other</u>
4	1		12	5		6	1	1

4.1.1 Self-reflection on the participation

Question 1: I am energy aware e.g. I am interested in energy use in the home, I read my energy bills (1= strongly disagree, 7 = strongly agree)

15. Sono consapevole dei miei consumi (per esempio mi occupo delle bollette energetiche)

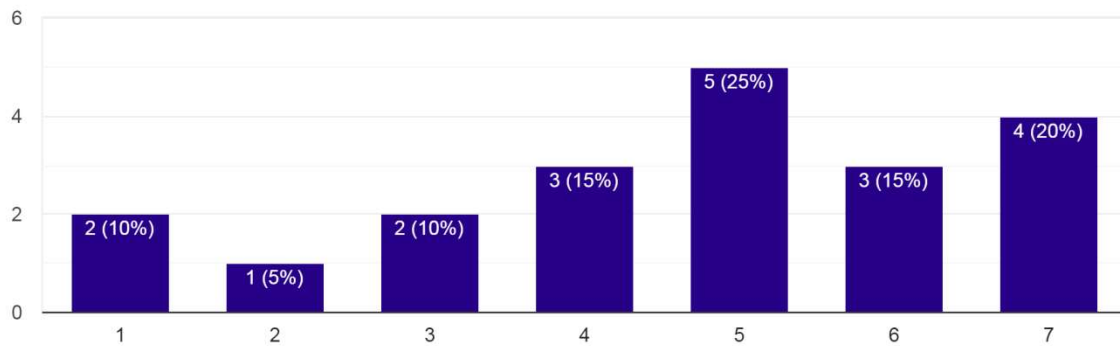
20 risposte



Question 2: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic (1= strongly disagree, 7 = strongly agree)

16. Mi sento competente in materia di energia, mi documento e/o dedico del tempo a questo argomento

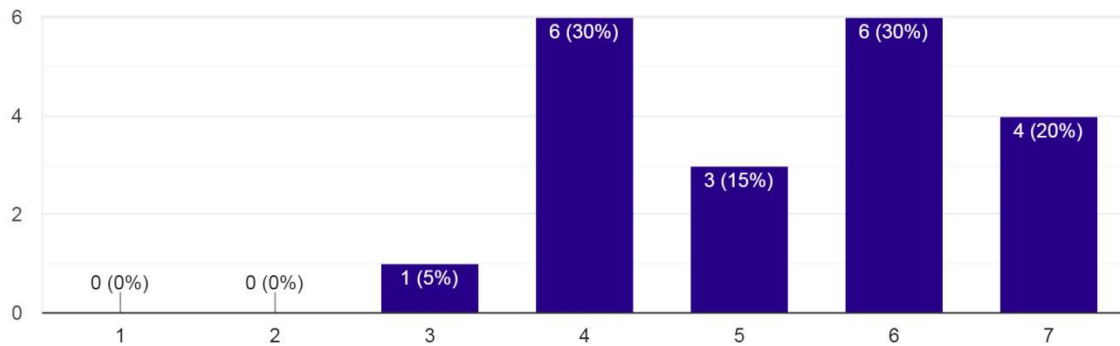
20 risposte



Question 3: How do you rate your skills in technology? (1= very poor, 7= very good)

17. Come valuti le tue conoscenze tecnologiche?

20 risposte



4.1.2 Carrying out the action

Question 1:



In order to understand the phenomena of air leakage and its implications, it's helpful to have an understanding of air and air flow.

While people mostly think of air as the element we all breathe, it's important to note that air contains and carries other elements as well like heat and moisture, which affects us and our homes in different ways.

Yes, I knew that!

Nop, I learn everyday!

Yes, I knew that

Nop, I learn everyday

18

2

Question 2:

You're doing great, just to make sure you got this try to respond to the statements below with true or false. You can skip this step if you wish but it's always good to get a feedback on how you're doing.

A tight house without a ventilation system is just as bad as a leaky house with a ventilation system to have the best air quality.

TRUE

FALSE

True

19

False

1

Question 3:

The warmer the surfaces are inside the building envelope, and the fewer the air leaks, the more constant the temperature will be.

TRUE

FALSE

True

9

False

11

Question 4:

Which ones are you willing to do ?

- Weather-stripping/rope caulk
- Sealant
- Foam gaskets

Weather-stripping/rope
caulk

10

Sealant

7

Foam gasket

3

Question 5: Do you think that what you learned is applicable to your home?

YES

16

NO

4

Question 6:

You finished all the sessions, and we're very proud of you. Now, we need you to tell us about what are you going to do next ?

- My house has air leaks and I managed to seal them by myself! Hooray 😊
- I'm not sure if I can do it by myself. I'm going to contact a professional
- I'm comfortable in my home because there are no air leaks that I detected!
- I found some air leaks and I'll handle it later ...

Finish!

My house has air
leaks

3

I'm not sure if I
can...

4

I'm comfortable in
my...

11

I found some air
leaks....

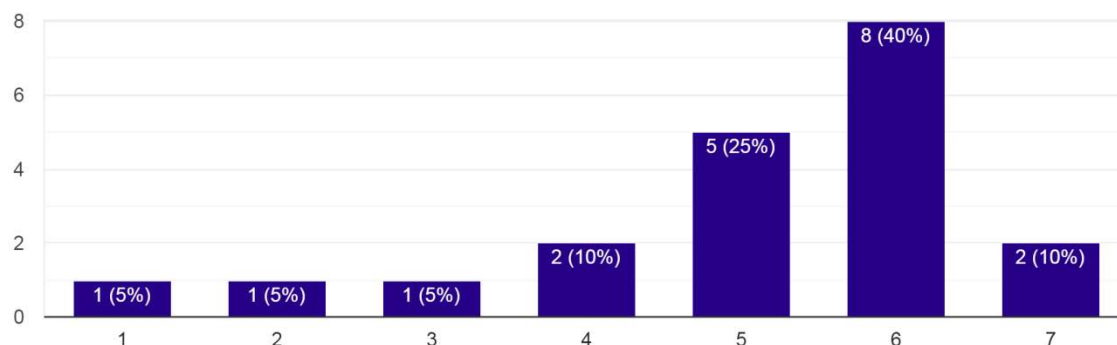
2

Question 7: How would you rate the skills acquired through this action?

Please rate your perception on the following 1-10 scale (1=very poor / I did not learn anything; 10=excellent / I learnt skills that fundamentally change my perception of energy consumption)

26. Che valutazione daresti a questo breve corso rispetto alle conoscenze apprese?

20 risposte



Question 8: Do you think that the training contents (examples, advice, good practices) are suitable and applicable to the Italian context?

YES

19

NO

1

Other comments

- The material is appropriate for "non-experts"; it explains in a concise and understandable way concepts that are not really immediate.
- The translation and the text are fluent.
- Stack effect: "During summer, the hot air in the attic moves to somewhere cooler, so the heat travels downwards towards the bottom of the house." In winter it makes sense, in summer it doesn't. Hot air doesn't go down.
- Different sockets – foam gaskets on the Italian market do not exist. Italian sockets are designed differently and there are hardly any draughts.
- In Italy, houses built after the 1980s have the opposite problem. They are too sealed and moisture stops. In winter, the house air is too dry.

4.2 Second Pilot

Six (6) of the participants tested the "Improve your home insulation" sub-action, and three (3) tested the "Change or upgrade your windows" sub-action. The pilot utilized an online survey that was sent directly to contacts, who were also provided with instructions on how sign in, access and implement actions. The participants tested the sub-actions in English.

The survey is reachable here: <https://forms.gle/dMVizyD7jHhPUEyT8>. Instructions are visible here: <https://drive.google.com/file/d/1jTau-6-SyimJdlcgrBU7FtyRvccr4GwA/view>

Next, the demographics of the participants are summarized:

Question 1: Where do you live?

Emilia Romagna	8
Veneto	1

Question 2: What is your education level?

<u>Lower secondary education</u>	<u>Upper secondary education</u>	<u>Post-secondary education</u>	<u>Short-cycle tertiary education</u>	<u>Bachelor or equivalent</u>	<u>Master or equivalent</u>	<u>Doctoral or equivalent</u>	<u>Other</u>
	1	1		3	2	2	

4.2.1 Self-reflection on the participation

Question 1: Why are you attending today?

I want to learn something new	9
I am interested (curious) about energy consumption / conservation	4
I am working in related fields	0
I want to take part in the ACT4ECO research project	3
I am interested in community activities	0

Question 2: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3	2	3	1	

Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2	3	1	1	2

Question 4: How do you rate your skills in technology?

<u>Very Good</u>	<u>Good</u>	<u>Average</u>	<u>Poor</u>	<u>Very poor</u>
	4	5		

Question 5: How do you feel about using e-learning tools?

All participants answer that they are comfortable in using e-learning tools and like them.

Question 6: What are your views on the sign-in?

It was easy to sign-up to ACT4ECO

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3	4	2		

Question 7: What are your views on Action/s “Improve your home”

Was it easy to complete the selected action?

<u>Extremely easy</u>	<u>Easy</u>	<u>Neutral</u>	<u>Difficult</u>	<u>Extremely difficult</u>
5	4			

Question 8: Among the sections of ACT4ECO visited, which was the most challenging in terms of navigation?

- None (2 answers)
- None in particular, the small difficulties are related to my age...
- The level of commitment required by the two piloting sections seemed to me to be the same
- None, they're all simple but effective
- What is an energy efficient window...

Question 9: What is the most useful thing you learned?

- How to better insulate my home, and what good does it do me...
- The aim is to understand the impact of personal behaviour on the economy and the climate
- That double glazing is already a good insulation system for windows
- The importance of ventilation
- Not so much that I'm already informed
- Some insulation techniques in your home to reduce energy consumption due to domestic heating
- How to make your home thermally efficient
- How windows can be improved in terms of insulation to improve the insulation of the whole house and gain in energy savings

Question 10: What you learned thanks to ACT4ECO has encouraged you to make changes in your home to save energy

YES

8

NO

1

Comments:

- I realized that I could increase the insulation in my house
- He gave me tips on "DIY"
- The importance of ventilation
- Improve insulation
- I have a new house.
- Precisely because the text is simple and quick, I think it has a good effect on the candidates.
- As the apartment is rented, the solution I could opt for is to put heavier curtains to better insulate the windows.
- In view of a future renovation of our house, we will consider insulating it thermally.

Question 11: Would you recommend ACT4ECO to other people?

YES: 9

General feedback

- In the screenshot of each Action it should be clearly stated that the items "Cost" "Difficulty" and "Impact" refer to the measures/actions and not to the course, otherwise it seems that the course is paid for.
- At the end of each action the "> Complete" button on the right does not work but you have

to use the "Back to Action themes" button at the bottom. You should then remove the right button "> Complete".

- Adjust the text layout (justified, etc.) and English grammar!
- Use a more formal and less childish language

4.2.2 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	3	4	0	0

Other comments:

- Home page too dispersive, I don't like scrolldown. NEXT button too out of view
- I opened the page on my laptop but the site is not responsive
- The design of the platform is clear and intuitive, but, when reading the contents, I found some typos
- There is an error in English: "quite" instead of "quiet"
- Buttons are missing in some sections
- Very clear
- Simple look, within everyone's reach

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO) & It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	6			1

Other comments:

- Yes, the contents are all visible on the home page. I viewed the page from my PC, so I can't tell how it looks on my smartphone screen.
- Finding ALL the information on a home page is an absurd and meaningless claim

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	7			

Other comments:

- I had a hard time finding EXPLORE THE ACTIONS, I'd put the link more prominently
- I would place the "NEXT" arrow closer to the right edge of the information box.

4.3 Usability Test

The test was carried out online. Testers were given the following instructions:

Website to be tested: <https://staging.act4eco.eu/>

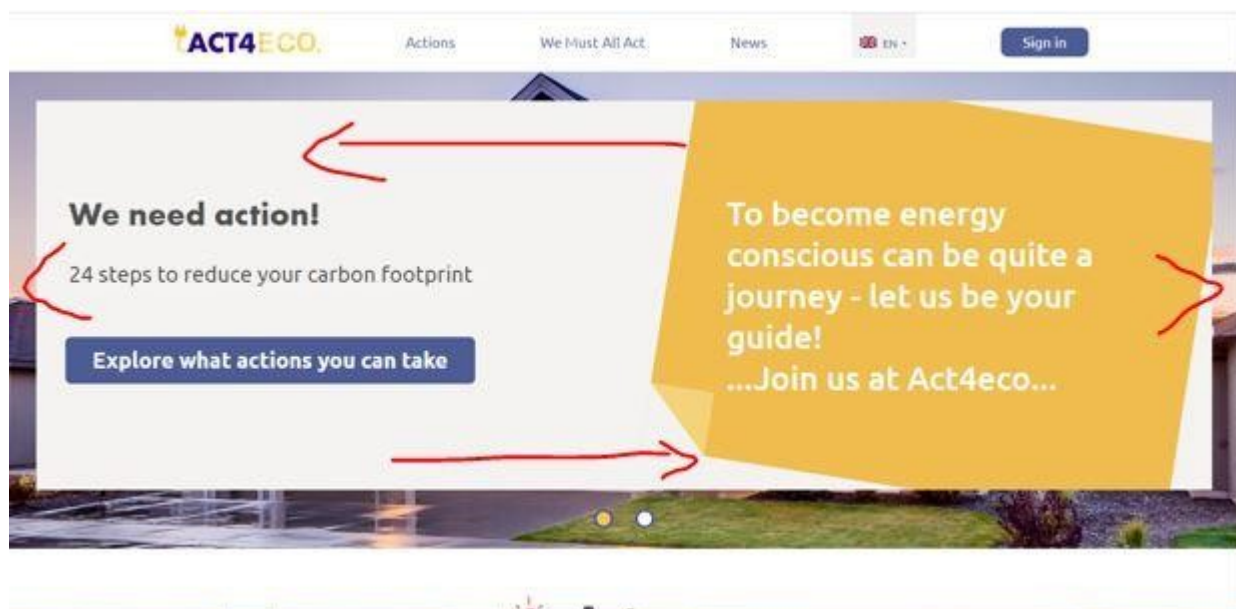
ACT4ECO has been developed within an EU-funded research project aiming to develop web tools to help citizens to learn what they can do to save energy and adopt sustainable behaviours at home. We need to test for usability:

- The home page
- The sign in/sign up process
- Actions page – and within actions what is named “Improve your home”

4.3.1 General comments

The Website is good and smooth. The User Interface is fine and everything is responsive and user-friendly. The colour scheme was nice. It was easy for the users to know about the website by just following the way and seeing different content on the page. There were few issues and suggestions according to different users to make the website more user-friendly and flexible.

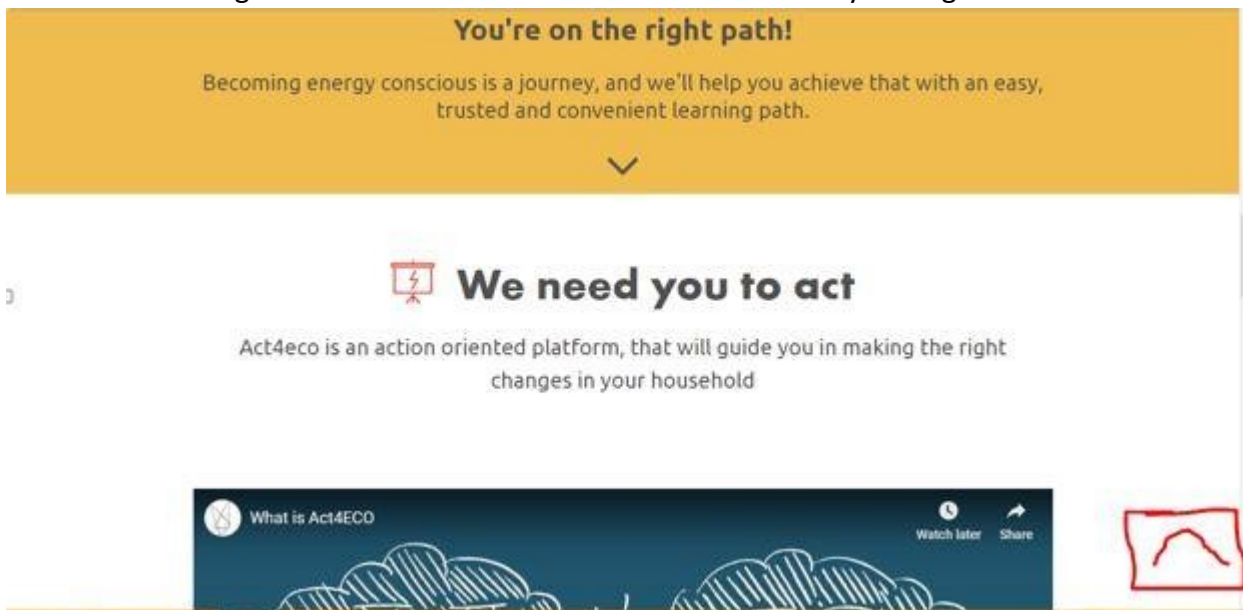
4.3.2 Testing for User 1



- It seems like the image will change by swiping the screen to left or right OR there should be next and previous arrow buttons on left and right side as it seems like two circles that it will change picture by swiping left or right.
- In the Background Picture it seems like the house is hidden and it is confusing so either change the background color to some solid color or change the background image.




- The content above is okay but it would be more user friendly if it contains some kind of video describing each section or it should be more attractive by adding animations.





- There should be an arrow up button on right bottom corner to move to start of web page even when user is at middle of the page instead of the Go to top which is placed at bottom

of the page.

 **We need you to act**

Act4eco is an action oriented platform, that will guide you in making the right changes in your household



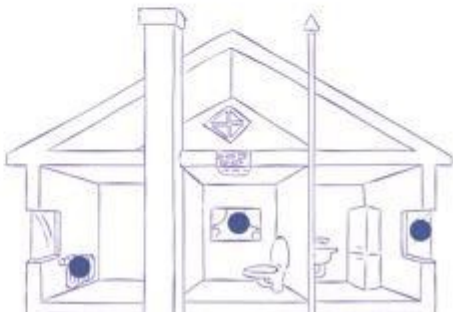
 **Act now**

Explore the actions you can take

[Become a smart consumer](#) [Improve your home](#) [Sustain efficient energy use](#) [Produce your own energy](#) >

Become familiarised with options for controlling energy consumption by understanding and correctly using ICT energy equipment.

[Explore the actions](#)



- The Section “We need you to act” along with the video should be in above in place of “Act now section” because it is easy for user to see first the guide or video and then jumping into the “Act Now” section.

Create user

Username*
Jahanzeb786

Email*
jahanzebch786@gmail.com

Password*

Confirm password*

Create user

Already have an account? [Sign in](#)

Terms Of Use | [Privacy Policy](#)

Powered by EngageSuite

- During the signout page form filling there should be little eye icon on right side of the password field to show or hide password like in most of websites.

ACT4ECO
Act4Eco.eu

Requests access to your:

- Engagesuite identifier
- Engagesuite account

Username or email*
Jahanzeb786

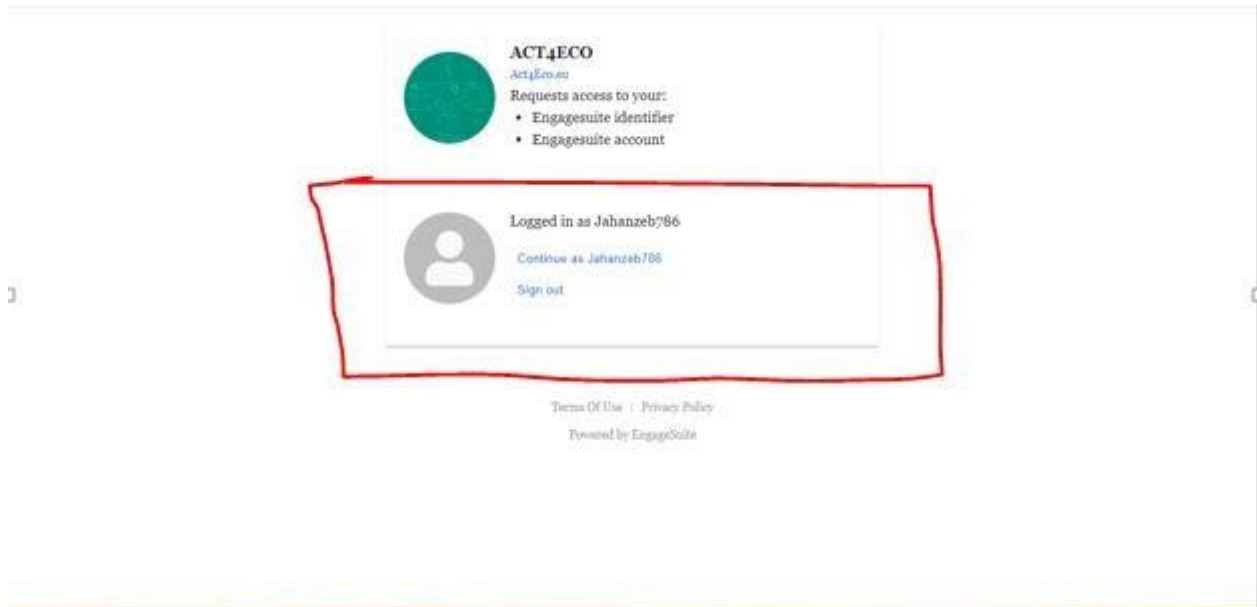
Password*

To avoid loss of data while using the program, it places data locally on your device. It is used to make sure that if you loose the internet connection, if your browser shuts down or if your computer restarts, you will be able to pick up the consultation from where you were.

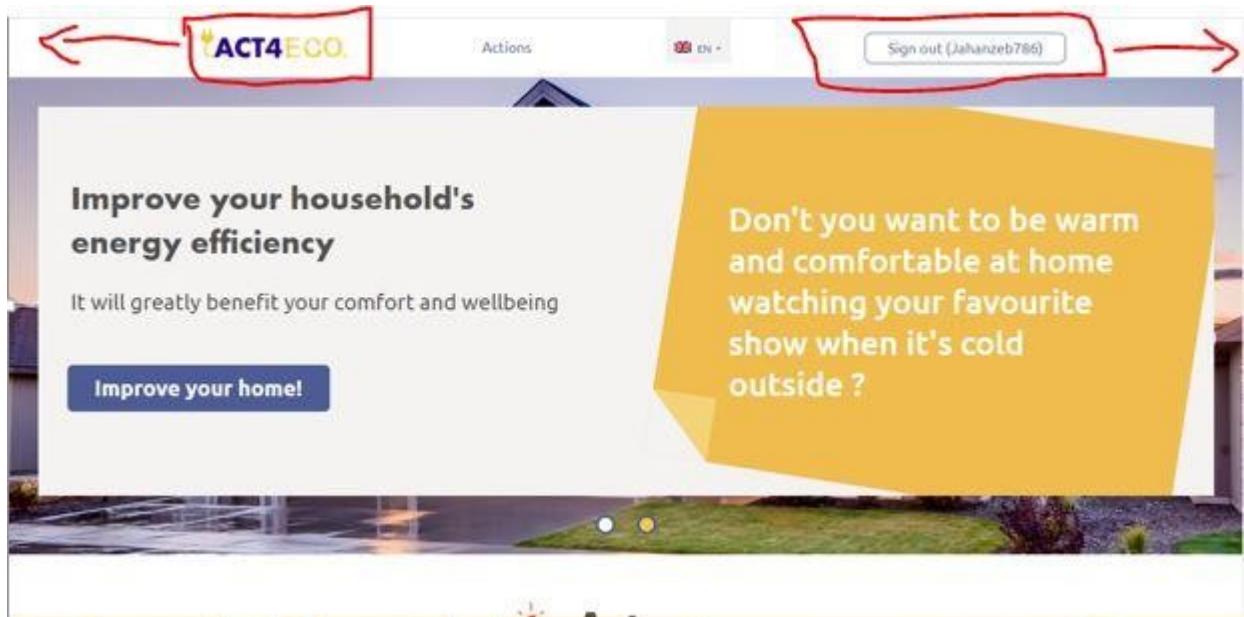
Allow usage of local storage
 Allow Local Storage

Sign in

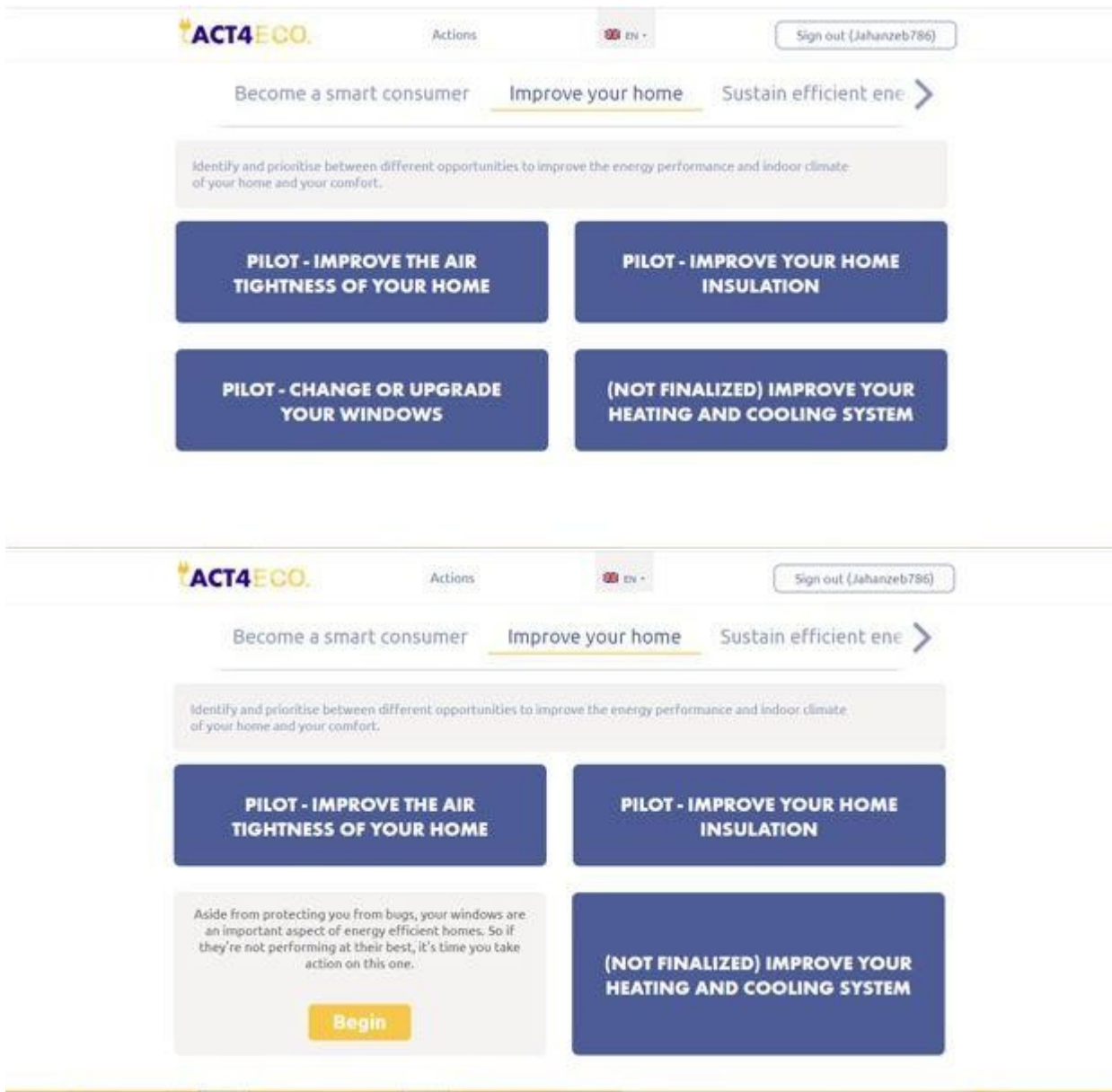
- On the login page when the email is not verified using link sent to email then it should show error like "PLEASE VERIFY EMAIL" as currently it shows nothing



- Issue with the Last logged in account details (Which should not be shown) even if the user is logged out.

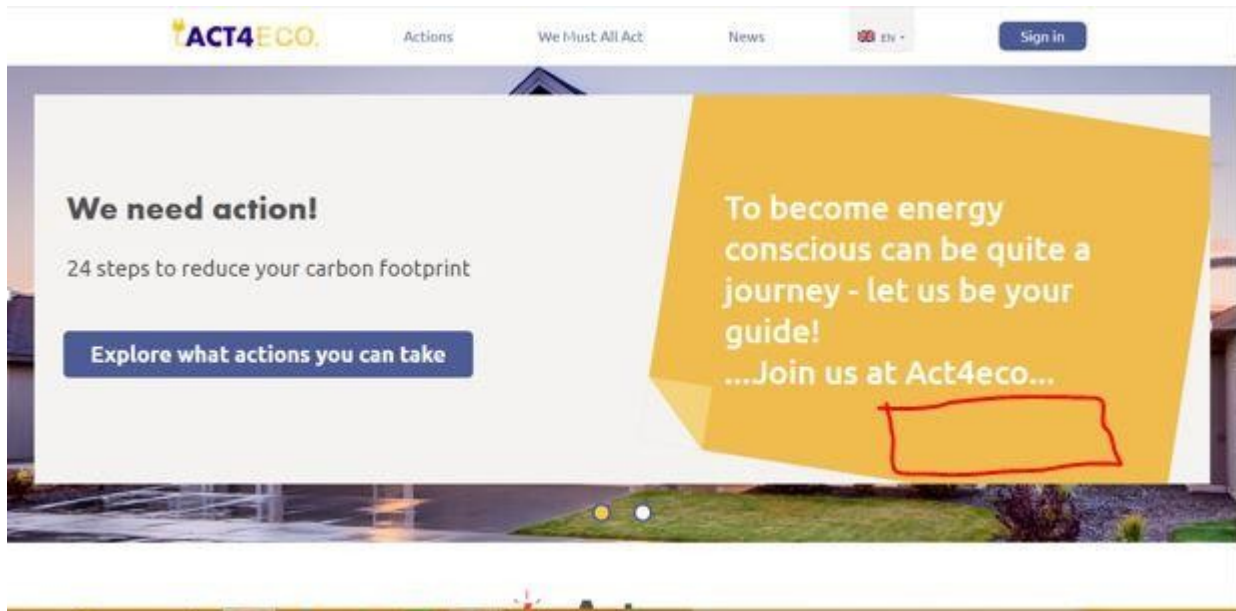


- There should be Edit profile and Settings menu on top instead of just giving option of signout.
- There should be Welcome text on the top to let the user know that user has been logged in.
- The logo should be on the left side of the top bar and Signout option should be on right side of the top bar to make it user friendly.

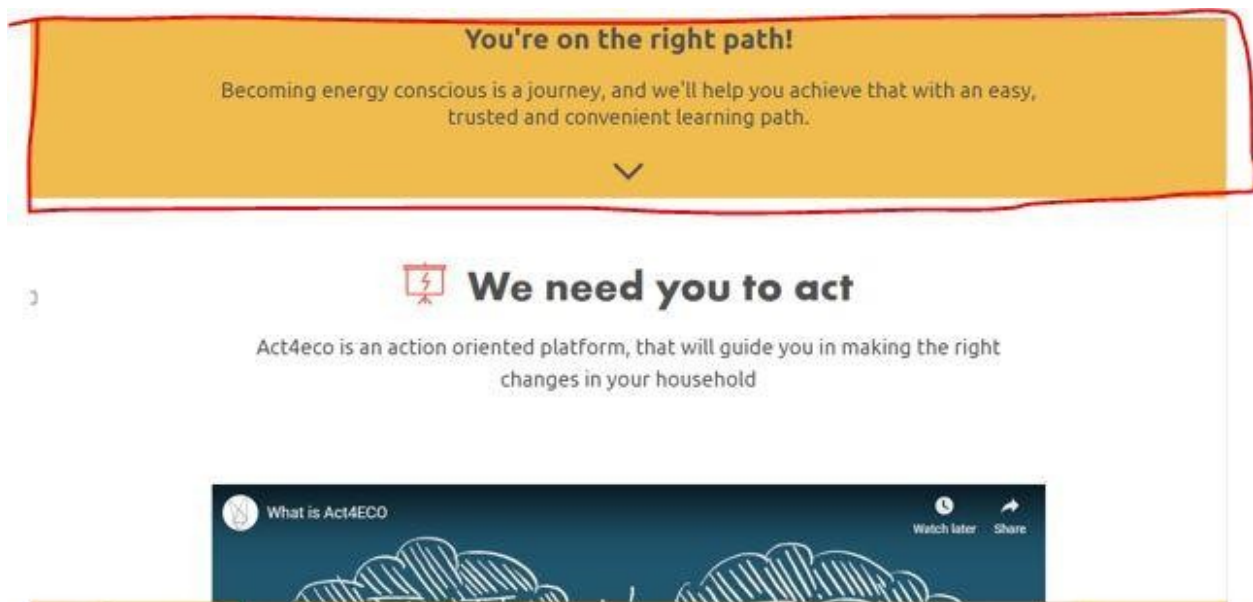


- You can add some kind of animation like modal (content moving from bottom to center or from top to center) to add attractiveness

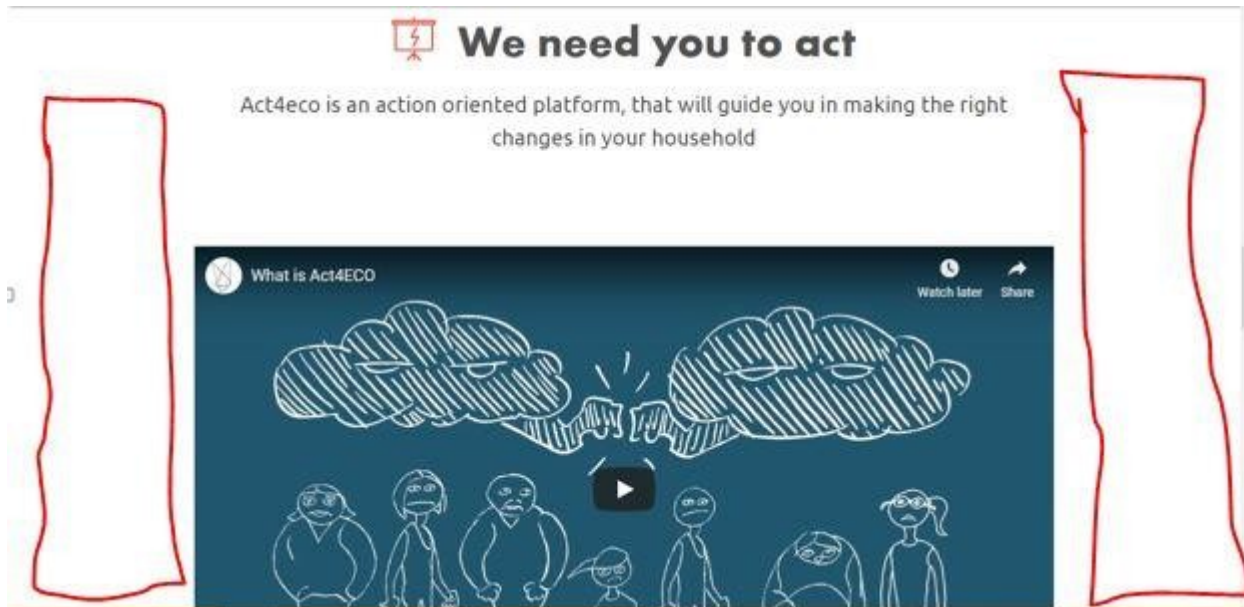
4.3.3 Testing for User 2



- There should be JOIN NOW or GET STARTED button as it is also written on right side that join us at Act4eco but there is no JOIN US button.



- The Section/Div "You're on the right path!" should not take the whole the screen; in the width there should be some margin from right and left to make it more beautiful.



- There should be a Learn More section with some content on the right or left of the video to guide the user about the content which is displayed as currently it is empty and looking odd.

Create user

Username*

Email*

Password*

Confirm password*

Create user

Already have an account? [Sign in](#)

- There should be progress icon on the “Create User” button when user clicks the “Create User” button then progress icon or bar should be shown to let the user it is processing.

ACT4ECO
Act4Eco.eu
Requests access to your:

- Engagesuite identifier
- Engagesuite account

Username or email *

Password *

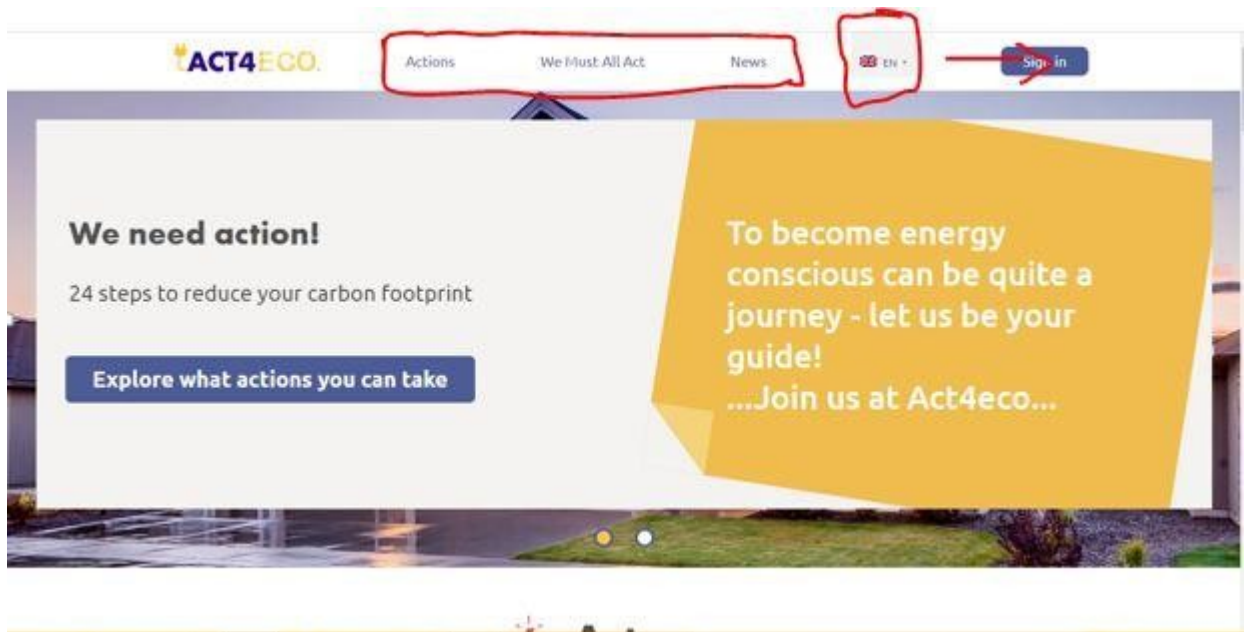
To avoid loss of data while using the program, it places data locally on your device. It is used to make sure that if you loose the internet connection, if your browser shuts down or if your computer restarts, you will be able to pick up the consultation from where you were.

Allow usage of local storage
 Allow Local Storage

Sign in

- There should not be empty space on the left and right side of the page which can be improved by adding a guide video or a learn more section.

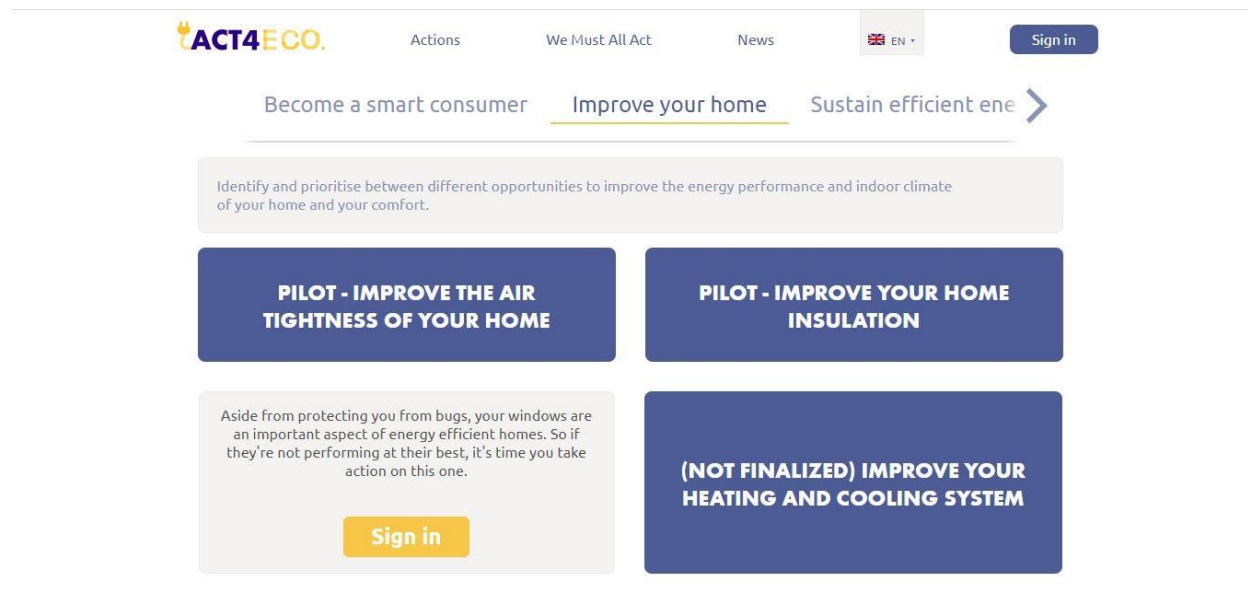
4.3.4 Testing for User 3



- In the top navigation bar the hyperlinks should be in the middle of top navigation bar without gaps between them and language option should be on the right side



- In the “Improve your home” the text or content is not showing properly as it can be seen in above picture that it is going out of window and it is overlapping the home pic.

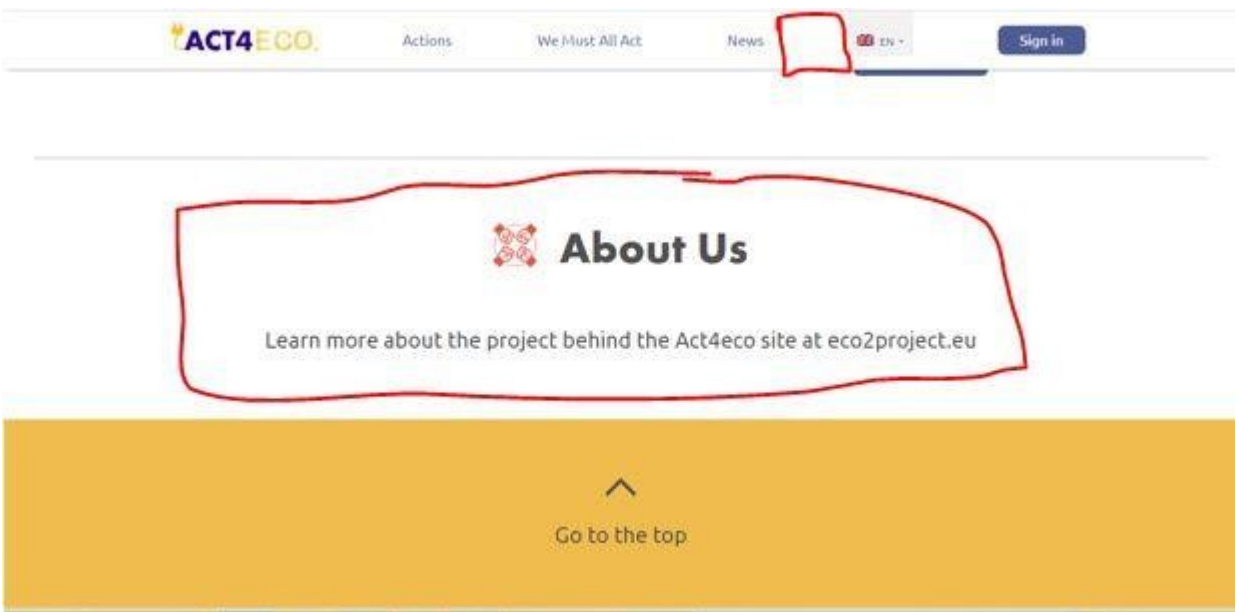


- In this section the colour scheme is just okay which could have been improved.

4.3.5 Testing for User 4



- Some of the content is not translated into French language when selecting the French as you can see in above image.



- The About Us section should be in the separate about us page and the link should be in the top nav bar of the website.

About Us

Learn more about the project behind the Act4eco site at eco2project.eu



Go to the top



This project has received funding from European Union's Horizon 2020 research and innovation programme under grant agreement No 784368.

Follow us on:



[Home](#)

[Privacy Policy](#)

© 2020 Act4Eco. All rights reserved.

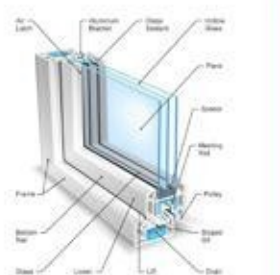
- The color of the Twitter Logo and facebook logo should match with the twitter color (sky blue color) and with facebook color theme like the facebook color (dark blue color)


PILOT - CHANGE OR UPGRADE YOUR WINDOWS


Introduction Do windows help save energy? **What is an energy efficient window?** Factors not to be over >

Your windows consist of a variety of materials, therefore there is a need to define the collective energy effectiveness of the window.

Energy efficient windows come in a range of frame materials and styles. Performance criteria vary according to how well they stop heat from passing through, how much sunlight travels through the glass and how little air can leak in or out around the window.



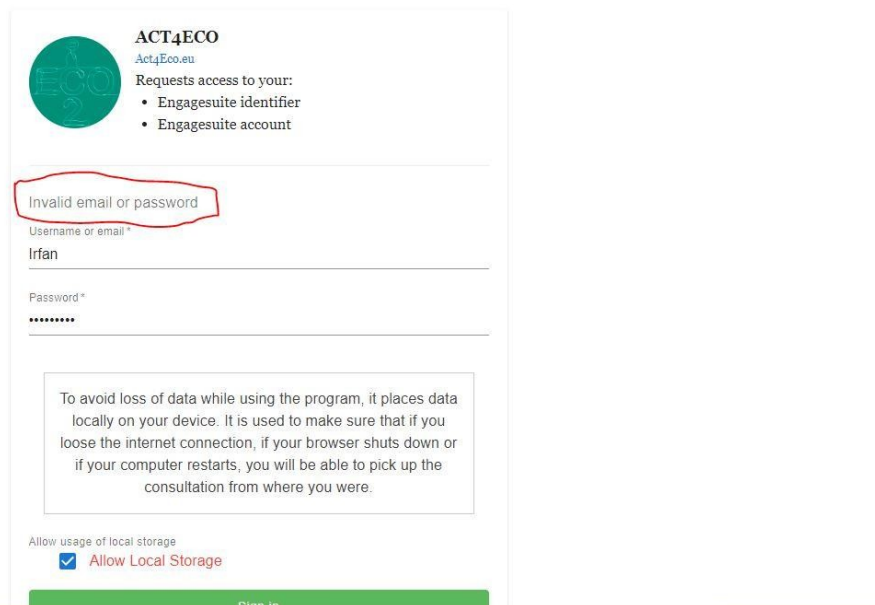
 Back

 Next

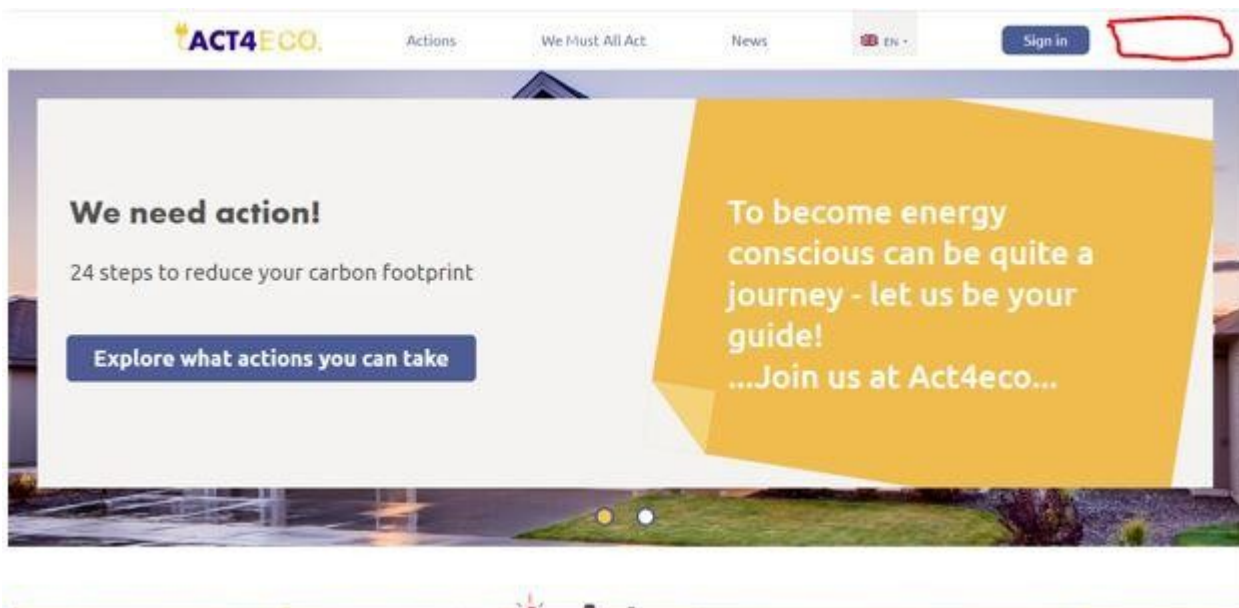
● ● ● ● ● ● ● ●

- The Next and Previous arrow button should be closer to middle section and also the Text should be removed as arrow are enough to convey the message what these icons are for.

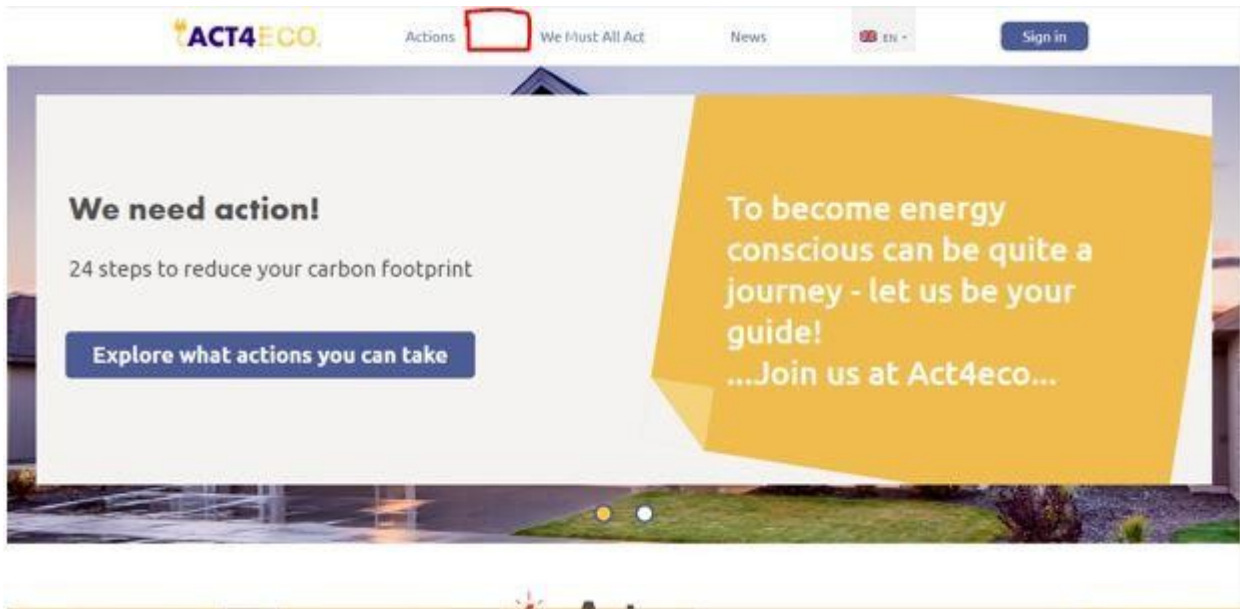
4.3.6 Testing for User 5



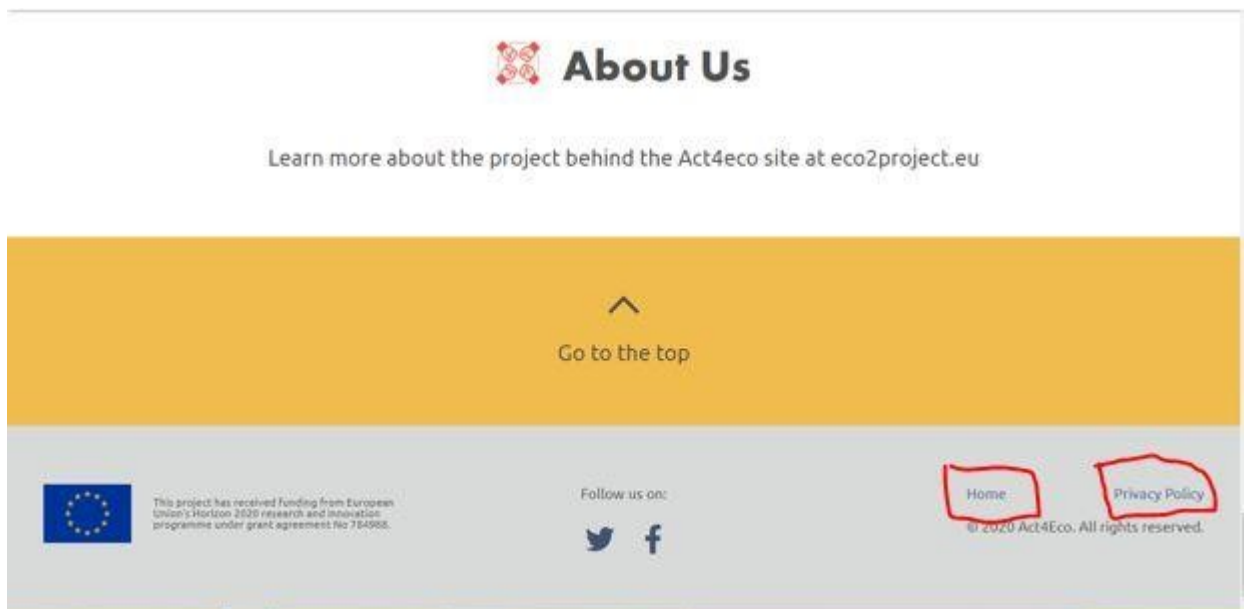
- The “Invalid email or password” text should be on red colour to give user attention that they have entered the invalid login details.



- There should be Sign Up button along with Sign In button to help user create a new account but currently the new user will have to first go to Sign in page and then Select Create a new account which is not a good approach so in order to provide easiness to user Sign UP button should be on main (Home) page.



- There is no Contact Us page on top navigation bar which should be present to give user the option in order to contact.



- Issue with the Home and Privacy Policy links at the bottom of the page Privacy Policy must be adjacent with the Home as currently there is a gap between them which should not occur

4.3.7 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3	2	3		

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
	2	1	2	

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	3			

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage.

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
	4	1		

4.4 Technical validation

We asked an engineer to review the Italian texts. In some cases, he compared them with the English original versions. Some comments and suggestions are relevant for both versions. Others relate the changes that may be necessary for the Italian version.

Change or upgrade your windows

- **Slide 5 – 6 – 7**
The information provided is disconnected from each other and the tester considers them not relevant to the potential users.
- **Slide 13**
Pane spacers cannot be purchased separately but they are sold in combination with the windows.
- **Slide 18**
In the Italian market there are no trickle vents in windows. The term can be replaced by windows with vasistas.
- **Slide 20-22**
Heavy curtains do not predominantly affect the energy saving of the house but improve the climate comfort (avoiding annoying cold air draughts).

Improve home insulation

- **Slide 6**
Loose fill insulation materials are no longer used in the Italian market.
- **Slide 7**
Fibreglass is hardly used in Italy because it is very flammable and its laying requires protective equipment. Stone wool is mostly used.
- **Slide 8**
Polyurethane and polystyrene are the two most used materials as rigid foam board (Italian market - to be evaluated in other EU markets).
- **Slide 9**
The spray foam is more suitable for filling the space between wall and frame, it is less used in Italy for large surfaces.
- **Slide 15**
Cavity walls (external walls) were used in Italy in the 60s and 80s.
- **Slide 24**
The text is too informal

Improve the air tightness of your home

- The term "mold" is perhaps excessive, can be replaced by moisture
- *Who likes a balloon with air leaks?*
The tester asked whether is possible to change the picture.
- Working with professionals – could be changed with “call/contact a professional”
- Foam gaskets don’t exist in the Italian market, this content should be removed as in Italy doesn’t make sense.

4.5 Important lessons for ECO2

The pilot results indicate that there is room for improvement in terms of the usability/use friendliness of the web interface. Furthermore, the translation of the content from English to the partners’ languages should also be accompanied by a review of the extent at which the content is applicable to the national context; it is possible that some parts of the content are not generally applicable, and particular options and/or constraints exist in different EU countries.



5 Pilots in Finland

UH conducted two (2) pilot runs to test the content of the “My Energy Consumption” theme. At the time of the first pilot, the materials had not been installed on the Act4ECO platform, although they had been inserted in EngageSuite beforehand. Therefore, UH had to opt for printed out versions of the platform contents and a presentation on how the sign-in page of ACT4ECO works. Actual sign-in could not be carried out, as the contents were not there for the pilot users in an accessible form.

In the second pilot, the pilot participants were able to use the homepage, but sign-in proved time-consuming and problematic: one of the three participants didn't want to create an account, another did, and a third one had trouble with making the account to work, as the verification e-mail took a long time to arrive. Furthermore, we experienced problems with the contents, and the platform collapsed in the beginning of the pilot. Following the collapse, we again opted for presenting the contents on Power Point slides and printed handouts.

The language of the content was English, as the materials had not been translated into Finnish. However, all pilot participants were fluent in English and understanding or translating the contents did not turn out to be a problem.

At the beginning of each pilot, the project and the platform were introduced (in the first pilot in English and in the second Finnish) and throughout the pilots the participants were encouraged to be critical, to comment and to ask questions.

In the first pilot, Dr. Ertiö facilitated the sub-group working in English, and Dr. Rinkinen facilitated the group in Finnish. During the group sessions, Dr. Kahma would observe both groups answering questions on the contents and the functionalities of the platform when needed. As the groups finished their examination on the content materials, the focus group discussions were held in these subgroups, as the groups finished on different time. The second pilot group formed one focus group in Finnish.

The first pilot group consisted of 10 students studying at the University of Helsinki. Half of them did not know each other beforehand, as they were recruited through university mailing lists. The other half (5 students) are attending a course on co-creation taught by researchers working for ECO2 and were recruited through the course. The languages used during the pilot were Finnish and English, as a couple of the students participating in the pilots were not natives.

The second group consisted of 3 participants from different age groups (one in their 30s, one in their 50s and one in their 60s). All three of the participants had a university degree and relevant experience on working on consumption issues.

As an incentive to participate, the participants were given tickets to the cinema.



5.1 First Pilot

5.1.1 Self-reflection on the participation

The most important reasons for taking part in the pilot study were interest/curiosity on energy consumption and conservation (3 students), interest in the ACT4ECO research project (3 students), other – the pilot relating to the co-creation course (2 students), interest in community activities (2 students).

Question 1: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Very strongly agree</u>	<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>	<u>Very strongly disagree</u>
1	5	2	0	2	0	0

Question 2: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Very strongly agree</u>	<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>	<u>Very strongly disagree</u>
0	2	5	0	1	1	1

Question 3: How do you rate your skills in technology?

<u>Awful</u>	<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>	<u>Excellent</u>
0	0	1	4	1	3	1

Most of the pilot participants considered themselves energy aware, but in the first pilot group we had also managed to reach two students, who didn’t feel that way. The majority of the participants also reported spending time reading energy-related materials. The majority of the pilot participants also rated their skills in technology average level or above.

Some of the pilot participants felt that **using eLearning tools** was a positive thing; “cool”, “extremely useful, if they are accessible for personal development”, “when they are well executed, they work just fine”, “I’m all for it even though I don’t have a lot of experience”. Some referred to personal experience; “I see a lot of possibilities in them. At where I work, an e-learning platform is being used to enhance the economic skills of young people, and it works well”. Some participants were more critical of the eLearning tools and their use: “It can be a nice add to teaching, if the contents are at the focus instead of the technology”, “if they are clear they may facilitate learning and doing course work”, “[they] can be useful especially for



the young, but they may rule out for example elderly people” . Two respondents were more reserved about eLearning tools “I personally prefer face-to-face methods, because oftentimes e-studies do not keep e accountable. However, if motivated, the eLearning tools provide flexible time frame for acquiring information”. One respondent stated that using eLearning tools to study a theme would be a challenge for someone with little knowledge on the theme being taught.

5.1.2 Reflection on the sign-in

Most of the participants **liked the sign-in page** to some extent, although they were not able to experience it personally. The page was characterized as clear, but a little dull. One respondent liked the open spaces and the image of the house but would have preferred sub-page instead of a long page that has to be scrolled down (as some visitors might not scroll all the way down to find the actual content). The participants wanted more colours, more graphical elements and less blank space on the top of the page. One respondent disliked the colour palette, as ECO in the title would require use of green. But “a good homepage is not enough – there has to be other reason why the user would end up on the homepage in the first place.”

Most of the respondents agreed with the statement that **they found the most important information on the homepage initial view (before scrolling down)** (2 participants strongly agree, 7 somewhat agree, 1 disagree). However, the required sign-in process awoke some conversation: most of the participants say that they would not want to create a user-id using their own personal e-mail. Instead, it was strongly agreed upon, that the contents should be available even without a registration process. The extra step of registration was considered a factor reducing the number of users. Moreover, the pilot participants thought it would be important to inform the user of what is on the platform without having to sign in. One participant suggested the navigation should be placed on the top of the page. The scrolling down to reach ACT4ECO was found difficult.

Most of the participants found **the ACT4ECO content links easy to find** (8 agreeing, 2 neutral). They were characterized as clearly presented in multiple places, but the text was considered sometimes too small by two participants. Three pilot participants considered here the problem to be the compulsory sign-in before reaching the actual content.

Most of the participants also found it easy to find relevant and useful information on the ACT4ECO homepage, but here again the compulsory registering process was mentioned as a factor restricting finding the information; “Not sure, if there’s some option for simply subscribe without creating an account. Some people may only want info.”



5.1.3 Action-specific feedback

My energy bill:

Section lacks motivation, as Finns are very energy aware people, they know what the bill contains and consume little. Electricity consumption is actually just a very small part of the bill (majority of the sum consists of taxes and transfer charges over which the consumer does not have any influence). Therefore, changes to it would not result in big enough saving to motivate the consumer. Moreover, the electricity in Finland is very cheap, which doesn't motivate energy conservation. Starting with the electricity bill is perhaps not a good choice. Rather start with the appliances and rhythms, then move to electricity bill and then to renewables.

Renewables:

There should be some more information on the renewables already in the beginning. Now the information is all piled up in the end of the contents. As it is ACT4ECO, the order should be considered.

Rhythms and routines:

Rhythms and routines are vague – why is it here, what is it about? Participants wondered who the section targeted for.

5.1.4 Focus group questions

Sign-in

The compulsory registration is a real problem – and probably will be a problem restricting the use of the platform. ACT4ECO should allow registration using an alias instead of an e-mail address, collective accounts (for schools and such), signing in via another service (Facebook etc.). Especially the older pilot participants found it a real problem, that there is no way of telling whether the contents are relevant for you when you sign in. It was pointed out that the Internet is full of information with no need to sign in. Most of the respondents stated that they would not carry out the registering process, but instead opt for other sources of information.

The pilot testers were also worried about privacy – what is the information collected for? Who uses it? The EU?

Title

The name ACT4ECO was criticized; “What is the ACT in it (the ECO we understand)?” “Will the name be translated in Finnish, as the English name works poorly in the Finnish context”.



Purpose

The information is useful, but it is not clear what the user gets especially from this platform, as the Internet is loaded with information on these topics. The contents should dive deeper into the theme, as right now the information is really on a general level, and it is hard to find motivation to go through the contents. The economic side of making energy aware choices should be more clearly pronounced.

For university students this may be too basic, but as studying material in children, schools, and high schools maybe relevant. However, as was pointed out – the content is really heavy for the kids. And what makes it heavy is the lack of visuals.


Tone

- The pilot testers appreciated the personal tone, but sometimes it went too far (as in the case of binge watcher-shaming). Especially the older pilot participants thought that they and their amount of knowledge were often underestimated. Testers considered themselves energy aware, thus often felt belittled by the content. It was stated that the materials are not for grown-up Finnish consumers nor for knowledgeable young people.
- It was suggested that maybe the Finnish market is in another phase than some other areas of Europe in terms of energy awareness and conservation.
- In general, there were too many generalizations on how consumers act. It was pointed out, that the consumers are also after numbers, as numbers are easy to understand.

Web layout

- The colour scheme does not match the eco-theme too well, the colours are simply wrong. The platform looks like “a feedback form of a construction firm”, the colours could be fresher, the background picture should maybe change by action.
- The different sections lack coherence – especially the graphs and pictures are too different. There are not enough visuals, and the ones we have lack interaction.
- Some elements could be repeated – such as similar information boxes displayed occasionally.

Other

- A **search function of the contents** was called for.
 - According to the pilot participants, there should be some calculator to evaluate electricity consumption; otherwise it is hard to make users commit to using the platform. Also, the benefits should be stated in a concrete manner.
 - The pilot participants warranted also links and lists of relevant readings. Perhaps it would make sense to provide links to the national stakeholders' web pages?
- 

- Motivation for the platform – most electricity companies in Finland offer data on actual consumption, tips on how to reduce energy consumption and a platform for studying and contemplating the consumption issue. Not very many people use them, so why would they use this?

5.2 Second Pilot

5.2.1 Self-reflection on the participation

One participant was interested in learning something new, another was interested/curious on energy consumption and conservation, and the third had checked all options (apart from working on energy consumption).

Question 1: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Very strongly agree</u>	<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>	<u>Very strongly disagree</u>
1	1	0	1	0	0	0

Question 2: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Very strongly agree</u>	<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>	<u>Very strongly disagree</u>
1	0	1	0	1	0	0

Question 3: How do you rate your skills in technology?

<u>Awful</u>	<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>	<u>Excellent</u>
0	0	1	1	0	1	0

5.2.2 Reflection on the sign-in

Two out of three participants liked the appearance of the sign-in page to some extent. The good features that were mentioned were the amount of contents being moderate. Another found the look appealing, but not logically functioning. The banner was thought to move too fast – in fact so fast, that the contents were not readable. The participants liked the picture of the house but were expecting the dots on the house to be interactive. The navigation bar on the top of the house was found difficult and illogical: why can't the contents be navigated



through the house? Why doesn't the link on the left give you a listing of the actions? Why do you have to scroll the banner to reach some contents?

The participants were critical of the navigation on the homepage. One agreed to some extent and one didn't agree or disagree with the statement on that **they found the most important information on the homepage**. The question brought some discussion on what is 'important information' – the group didn't have much idea beforehand even if we watched the video presentation on the platform.

The participants disagreed with the statements that the ACT4ECO links would be easy to find. One of them stated "mostly, but overall, the sign-in process is very tricky". In the discussion on the sign-in the others agreed. Sign-in and permissions: generally, the sign-in process was believed to be a hurdle because it is hard to estimate what value the contents give them in return for signing up. "Allow local storage" permission step was not understandable and would deter from signing in.

5.3 Important lessons for ECO2

The mandatory sign-in process may become an obstacle for potential users to explore the content.

We could make a distinction between the difficulty of implementing an action and the difficulty of the concepts underlying the content. So far, we are clear about the first, but not about the second. The goal should be that users can easily position themselves in a knowledge scale that distinguishes between content that is and content that is not relevant for them.

An important question to address is what differentiates the platform's content from other sources already accessible through the Internet. One solution would be to focus on making the economic side of energy aware choices more clearly pronounced.



6 Pilots in Portugal

The pilot tests in Portugal were performed online due to the Coronavirus situation that made impossible for DECO to gather people in a physical place. The questionnaires were adapted to the SurveyMonkey platform and the pilot ran from the 30th of March until the 26th of April, a total of 27 days, in order to achieve at least 20 complete answers.

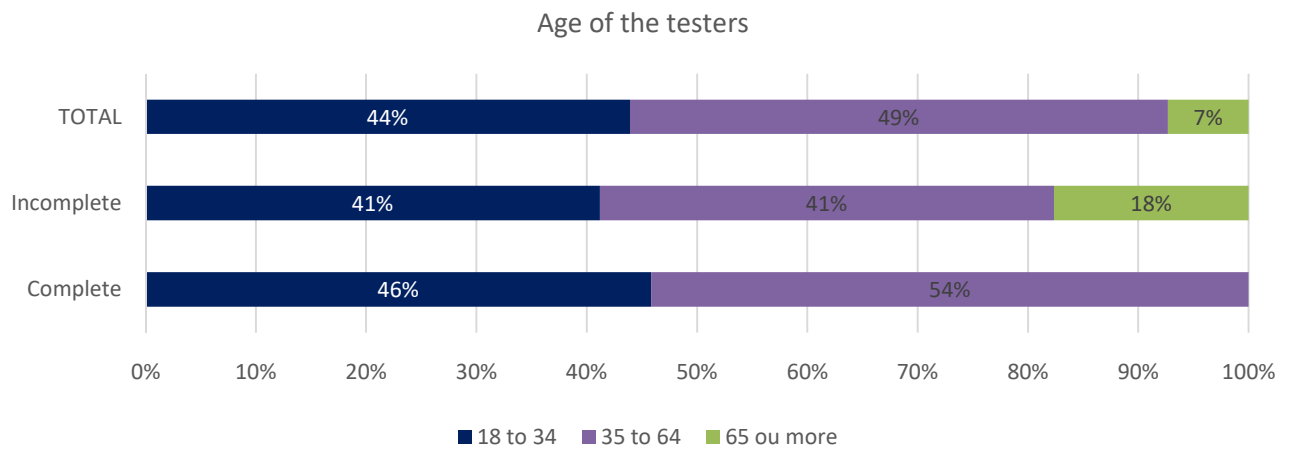
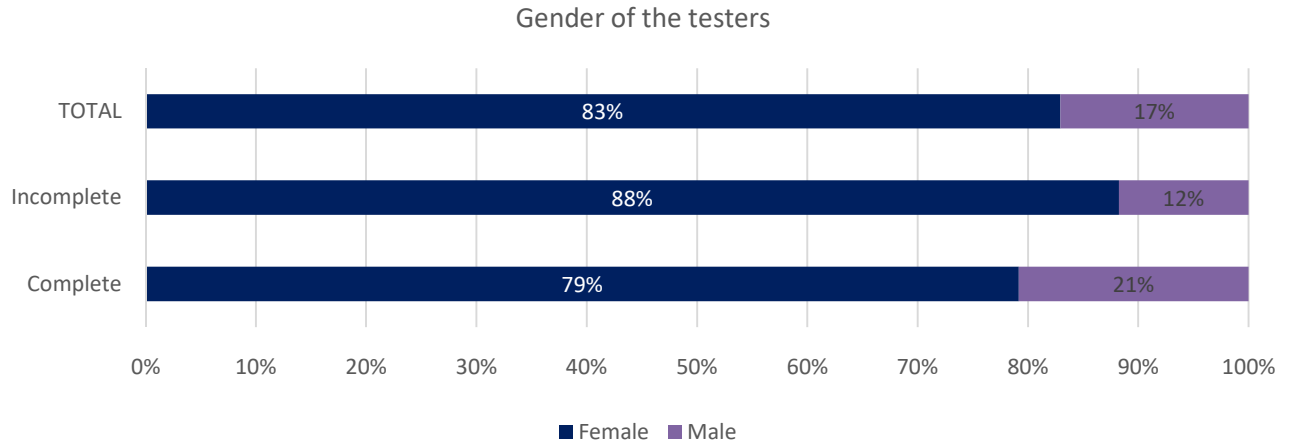
It is important to stress out that the project team did a significant effort in contacting consumers and disseminating the pilot action. However, it was only possible to get 42 testers to carry out the pilot and that was only possible because DECO also resorted to close contacts. Nearly 43% of the testers didn't complete the test, which resulted in a total of 24 testers (24 complete answers).

The survey was divided into 5 mains parts:

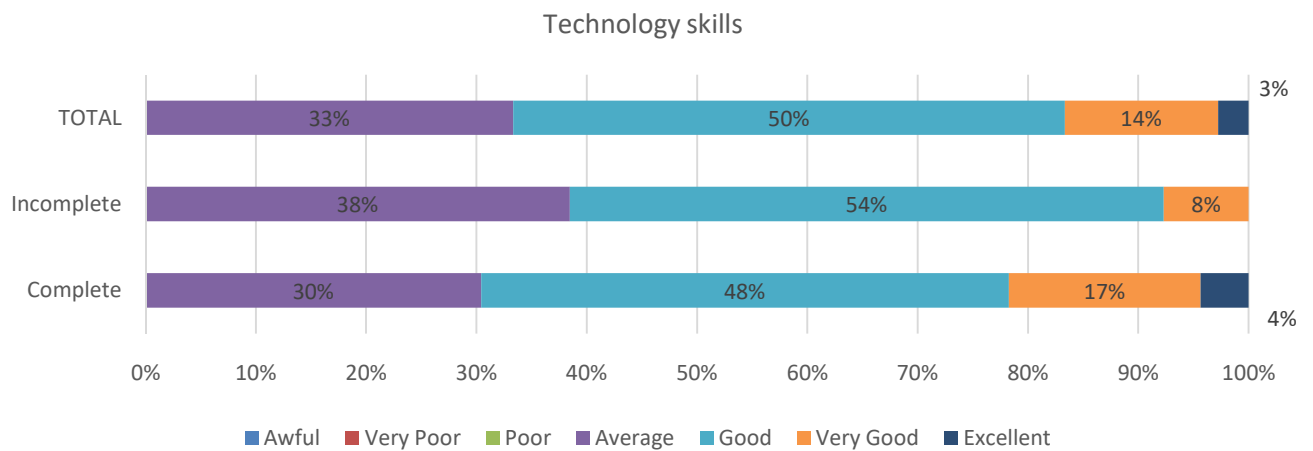
1. Consent Form
2. Personal characterization
3. Pre-test questionnaire (Participant's Form 1)
4. Use of the ACT4ECO platform
5. Evaluation of the ACT4ECO platform
 - Homepage – (Participant's Form 2)
 - Generic Verbal Prompts
 - Focus Group – Questions
 - Engagement (repeat for Sign-in / Action sections)
 - Ease of Use (Navigation / Sign-in / Actions)
 - Usefulness
 - Reflection

The initial groups were more heterogeneous regarding gender and age, but when changing to the online version and the close contacts, it wasn't possible to maintain that heterogeneity. Most of the testers that completed the test were female with ages between 35 and 64 years old. Another important observation is that the 3 senior testers (65 or more) didn't complete the test.



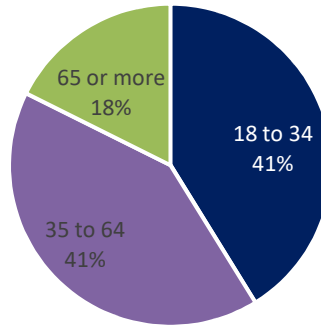


All the testers stated that they have good technological capabilities, including the ones that didn't complete the test.



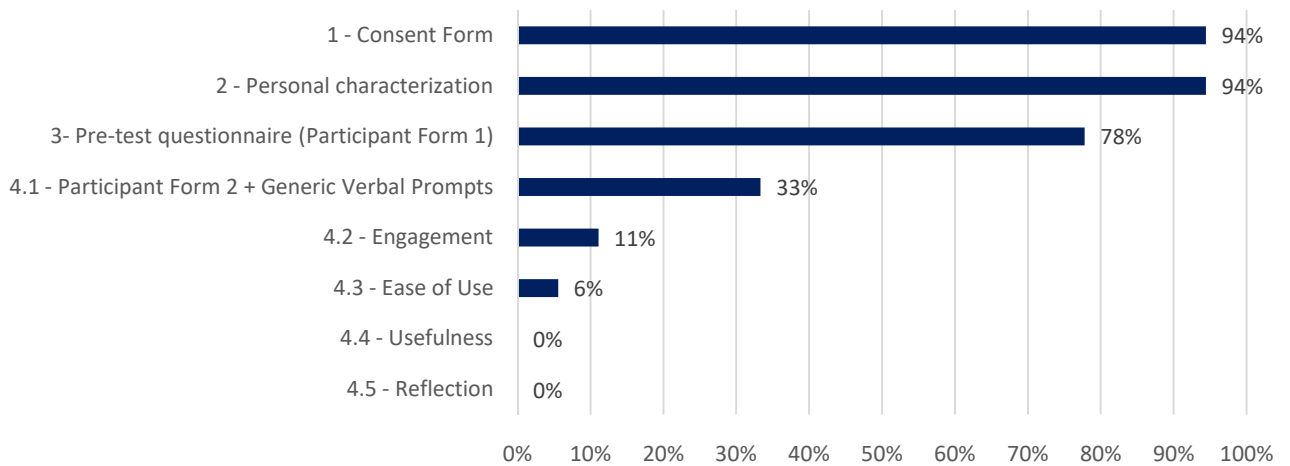
Some important observations can be made from the group that didn't complete the test. The 18 testers represent all the age groups tested and not just seniors. This means that accessing the platform was not only a problem for seniors but also to the young and adult testers that use computers and smart phones on a daily basis.

Group ages of testers that didn't complete the test



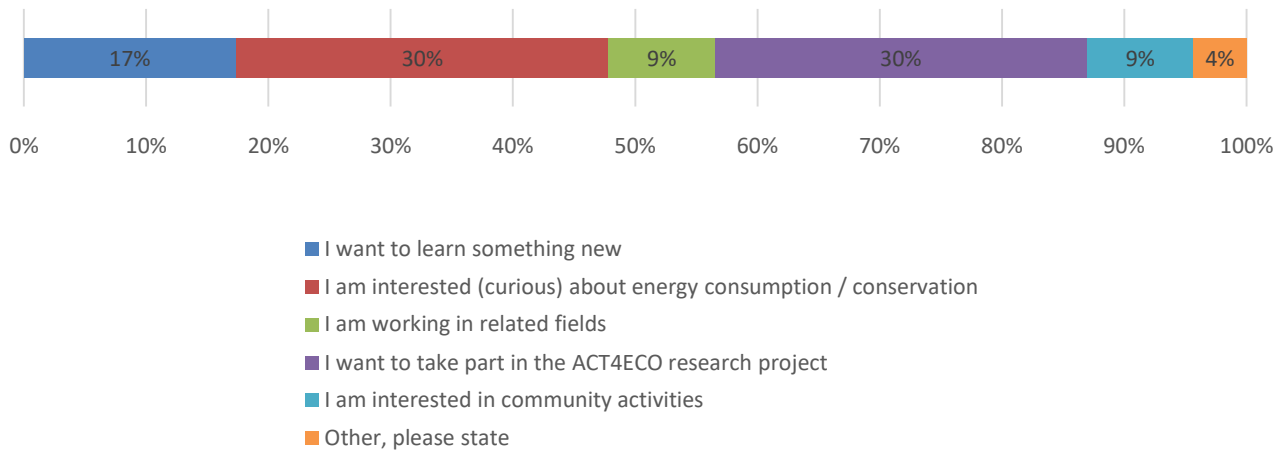
As can be seen, only 33% of the testers advanced to the platform evaluation. Many of them stated difficulties in registering or accessing to sessions 2 and 3, so they didn't complete the test. These testers mentioned that the process is too complicated and non-linear.

% of testers per step



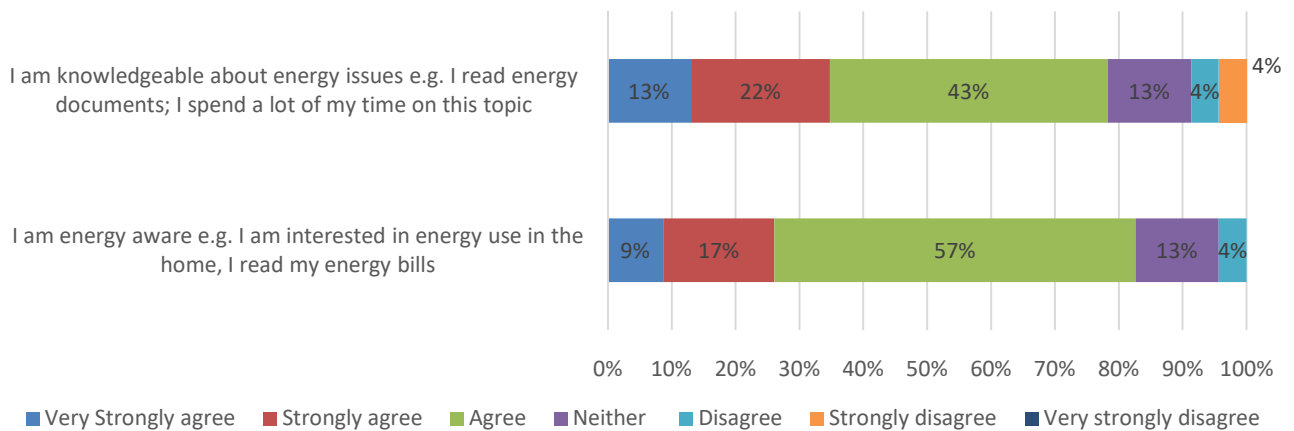
6.1.1 Self-reflection on the participation

Question 1: Why are you attending today?



Regarding the reasons to participate in the pilot action, most of the testers stated that they were interested (curious) about energy consumption/conservation and wanted to take part in the ACT4ECO research project.

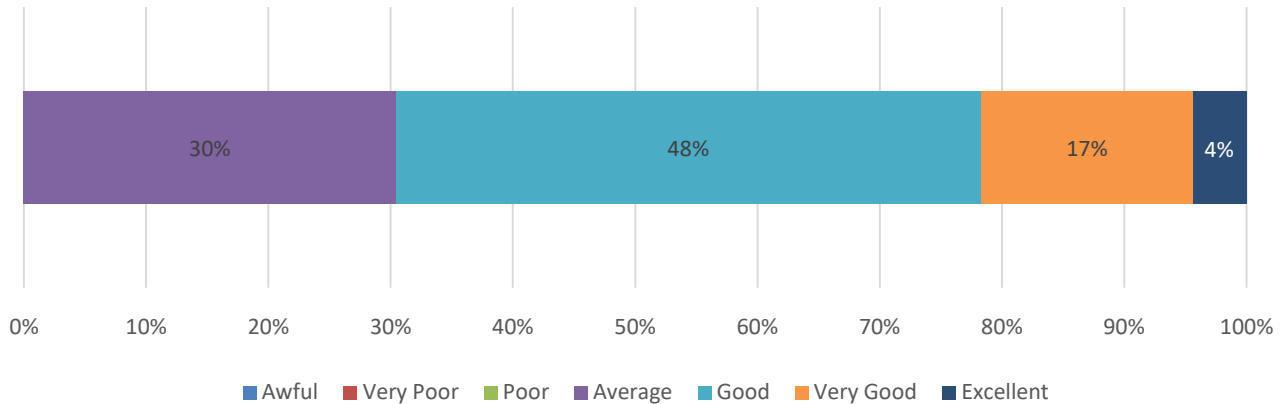
Question 2: How familiar are you with energy conservation and energy consumption?



The majority of the group stated to have knowledge and awareness regarding energy issues, showing interesting in the project’s topic.



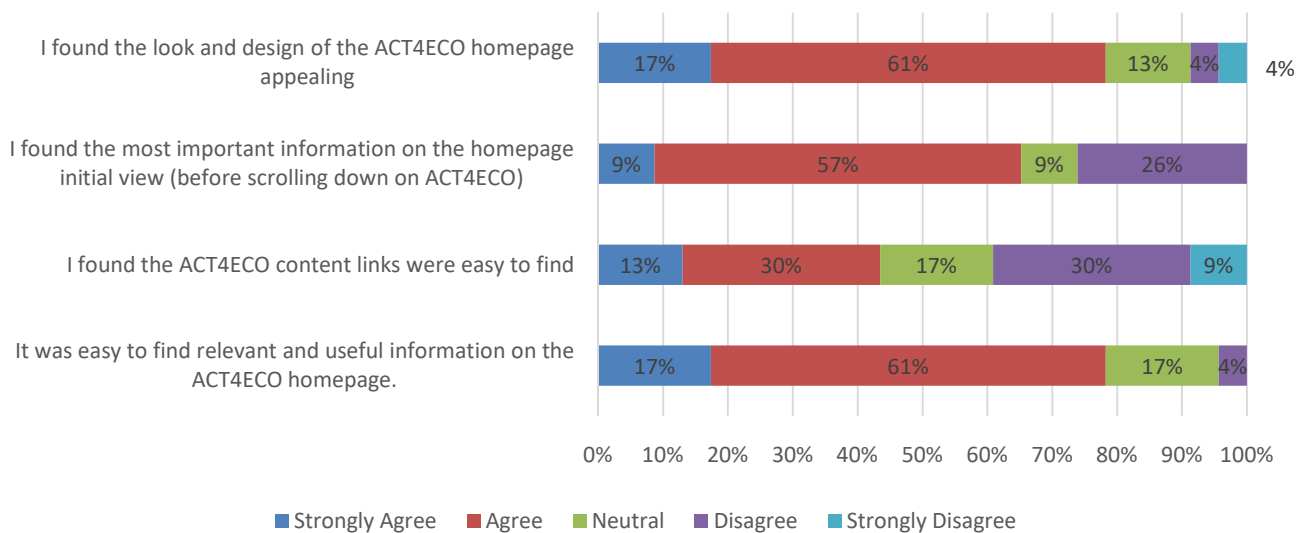
Question 3: How do you rate your skills in technology?



Question 4: How do you feel about using e-learning tools? (Open ended question)

Most testers claimed to have reasonable, average, or good skills regarding e-learning tools, with some using it for their work (trainers) or attending courses online or with an online component. Others mentioned that they don't know or don't have skills in this type of tools or only use them occasionally.

Question 5: What are your views on the homepage?



Testers find the homepage attractive, interesting, and easy to read, containing the key messages. However other testers stated that it was weak, confusing to navigate, and that the contents are difficult to perceive due to the layout of the page. Many testers stated that it was very difficult to register in the platform, and some even have asked for help. Regarding the



“move to the next sessions”, testers mention that it's unclear how to do it, that it's “camouflaged” and they rather go back to the homepage at the end of the session. The user should be directed to the next session right away.

6.1.2 Action-specific feedback

Sustain Efficient Energy Use

The testers mentioned that the action was well-constructed, with language close to the consumer and with examples with which they can identify. The subject is fairly relevant and pertinent for the consumers to have a greater perception of the economic and environmental impact of energy consumption, focusing on several important aspects of home life that need to be kept in check. They consider this action to be quite useful.

However, the testers criticized the fact that the information is a bit repetitive, becoming confusing and long, while lacking technical information. There was also a lack of information about mobile phones, computers and lighting.

6.1.3 Focus group questions

Engagement (repeat for Sign-in / Action sections)

Question 1: In what way did you feel ACT4ECO involved you?

Some testers said they felt curious, entertained, and interested in receiving information and that the format of the presentation and the colours of the Platform convey calmness. They also said that the construction of the platform's tests makes people feel that they are important in changing behaviour, because it captivates the consumer as the centre of change by demonstrating the power of the consumer. However, others said they felt poorly or little involved, because they didn't find it attractive, or because they prefer it when there are more questions and choices. There was also a tester who said that only felt involved for her general interest in the matter.

Question 2: What helped to keep your attention during your use of ACT4ECO?

The testers mentioned that what helped them keep their attention was the short reading, the simple and straightforward language, the design, the use of images and graphics, as well as the use of colour, being able to walk back and forth, have the sessions classified by duration, impact, etc, and having questionnaires, that made the lesson a little more dynamic and interactive. However, they again pointed out that the part they tested had too much text and was too general.



Question 3: What made you disconnect from ACT4ECO?

Most of the testers said that it was the register/ login area because it's very confusing. Others gave several reasons, such as the longer technical explanations - too much theory; we suppose that the users have no previous knowledge and it will all be new information; having too much text in the lessons, no video resources, images with confusing concepts, the next and previous buttons were not obvious.

Ease of Use (Navigation / Sign-in / Actions)**Question 1:** How easy did you find it to sign into ACT4ECO?

- YES - 15 testers: some of them indicated that it was only because they either already use this type of platform, or because we have provided additional instructions, so they think it needs to be improved.
- No – 8 testers: difficult to log in because it has too many steps and because it changes pages in the registration process. They found the process very complicated, not very intuitive and concise, and it's only easy for someone who masters the technologies.

Several testers didn't receive the validation e-mail. Some gave up when this happened, others ended up registering again, with an alternative e-mail and another username.

Question 2: How easy was it to complete the Action section/s of ACT4ECO?

The testers revealed that they had several difficulties; mainly they felt that the exploration isn't clear and accessible because it is difficult to understand how to go from session to session, since it is mixed with the design of the page. The testers suggested that the bottom should be in the end of session page and mention that the platform asks too many requests for authorisation to store information. They also had difficulty because some terms were in English when returning to the actions, because sometimes the page switches the language to English.

Question 3: Which part of ACT4ECO was the most challenging for you?

Most of the testers said that was the registration process or the change between sections. They also pointed out some repetition in the various action tabs, the fact that the platform isn't much intuitive and it's difficult to keep the focus, because there are no cartoons, no audio and no energy bills.

Usefulness**Question 1:** What insights are you taking away with you today?

Most of the testers pointed out the importance of energy efficiency and of knowing more about it for day-to-day use, identifying areas that mean greater electricity consumption such as



heating homes and the need to increase energy savings. The testers identified themselves with some examples and understood what they shouldn't do, in terms of a more efficient equipment, because it is only possible to save energy if we always maintain an efficient attitude towards energy. They also understood that the adaptation of more efficient materials and equipment must also be accompanied by a change in behaviour to avoid rebound effect.

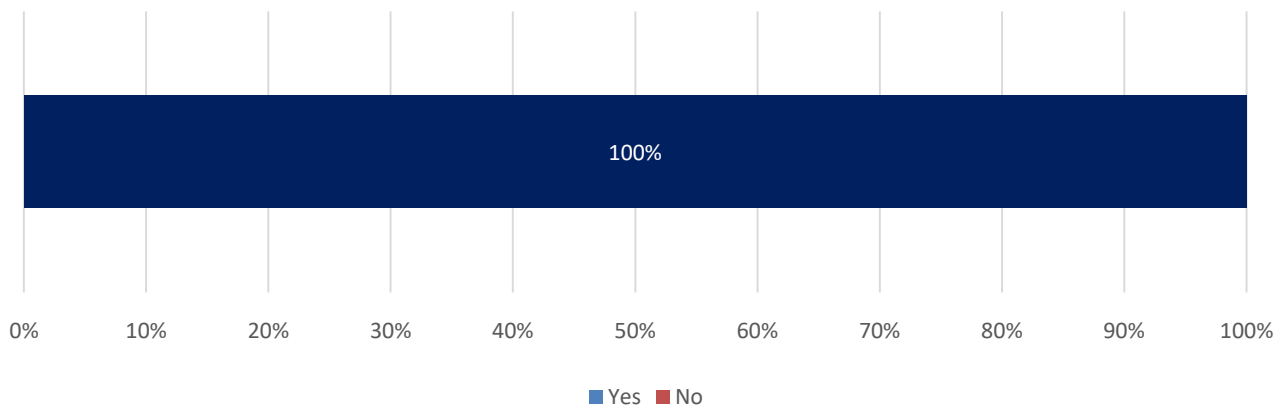
Question 2: What will you say to family and friends about your ACT4ECO experience today?

The testers have described the platform as an interactive platform, with actions that allow family to reflect on energy consumption behaviours at home, with interesting contents, a broad view or basic information (depending on the tester) on energy efficiency and with very concrete and achievable actions. They said that it is quite good and effective because it is important to know how to reduce our ecological footprint, to reflect on the topic and learn good energy practices. They also said that it's a useful introduction for those who have time and for those who are starting out on energy efficiency.

Question 3: How useful was the ACT4ECO information for you? (If not, why was it not useful?)

Most of the testers said that it was useful because it helps to understand the reality of energy consumption, reflect and raise awareness regarding the topic. It also challenges people to change daily habits by improving their energy savings, environmental and financial resources and helps to remember because in everyday life we easily stop doing what we already know. Those who said that wasn't useful, it was because no new information was provided to them.

Question 4: Do you plan to make any changes at home to save energy after today?



Question 5: *If yes;* What changes do you plan to make at home to save energy after today?

Regarding behaviours, the testers said that they plan on paying more attention to energy bills and everyday energy consumption behaviours, mentioning that they will turn off the TV when not watching as well as turn off the lights when they aren't needed, switching off stand-by



devices or unplug them, and always fill the machines as well as reduce the use of air conditioning equipment.

As far as home improvements are concerned, the testers say that will implement smart outlets, check if doors and windows are well sealed, and if not, seal them, improve the insulation of the house and start paying more attention to the purchase of household appliances, preferring energy efficiency upper classes.

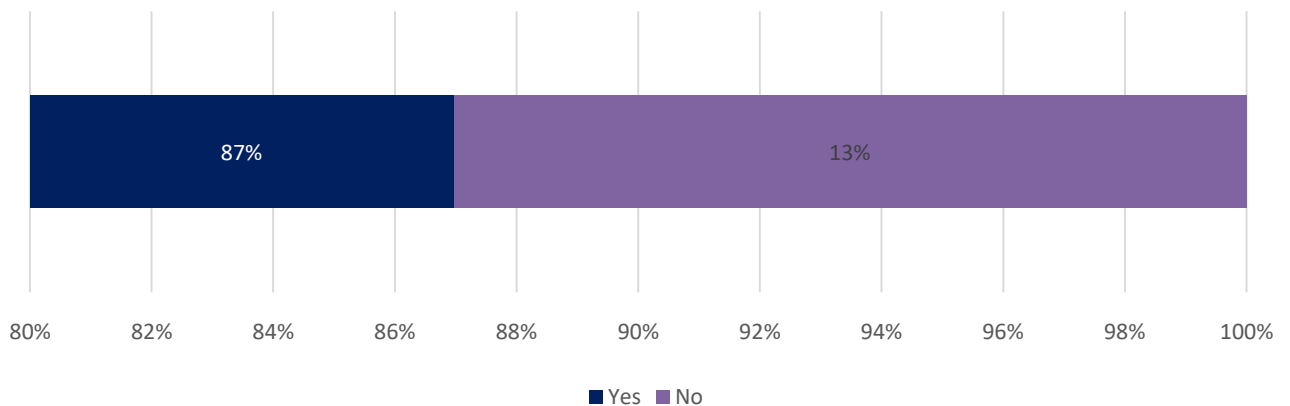
Reflection

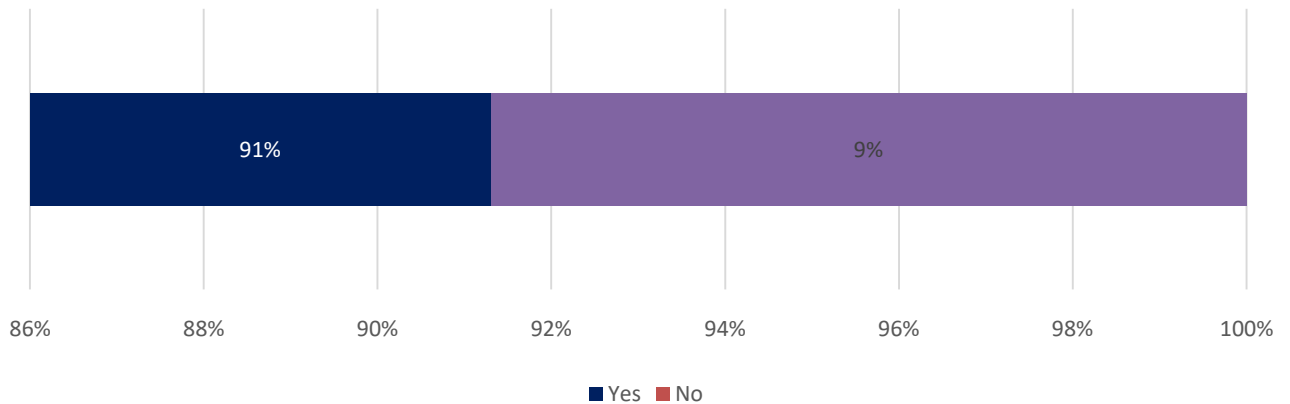
Question 1: What are your recommendations for improving the ACT4ECO eLearning platform? (Both content and navigation to be explored)

The testers made several recommendations, most of which focused on reworking the login or registration process, changing the transition process between sessions and creating a more intuitive navigation. Other recommendations were about creating only one tab to access the actions, fix the language change when returning from the menu of actions, add demo videos as well more technical information (e.g. impact of reducing machine from 60 to 30 degrees). They also asked to introduce a progress line. Someone also advised us to be careful with English, depending on the target audience.

Question 2: What are your thoughts about using ACT4ECO in the future?

We asked: Do you plan to use the platform in the future?



Question 3: Would you recommend others to use ACT4ECO?**6.1.4 Important lessons for ECO2**

The registration process must be simplified, as it seems to require a lot of time/energy from users. Furthermore, many users would probably appreciate a more direct presentation of the content (hard facts, tips and guides). Content that motivates users to think about energy consumption and reflect on their behaviour will work better on group settings, so we need a way to differentiate the content according to the intended way of user interaction with it.

7 Pilots in Belgium

SDS involved 20 participants. The tested actions were:

- Smart Consumers
- Sustain Efficient Energy Use



7.1.1 Self-reflection on the participation

Question 1: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
4	8	2	6	0

Question 2: What are your views on the homepage?

- Homepage design is appealing. However, the header is not, it is too big for the screen, and it doesn't invite to scroll down
- Add a drop-down menu to show all the different Action Themes at the top
- Well organized in blocks and comfortable to read, nice colours (warm and not the usual environment green we're tired of seeing everywhere)



- Menu needs to have all the buttons (about / how it works and everything is not there ...)
- Personalized language, easy to understand, not judgmental, friendly and natural approach
- The presentation video doesn't work... not engaging. Doesn't match with general graphic design / The idea of the video is nice, but it clashes with the design of the website. Voice is monotone, and video is too long – it should be short and more dynamic, otherwise it reduces the credibility of the website
- The arrows in different headings don't really make sense (“it just brings you an inch down”)
- In the Actions' presentation: it's not clear that the dots are clickable
- Background image is not relatable to European Houses – it's more like LA mansions
- The articles should be country specific - but not sure of the relevance. “Good to know it's there, but I wouldn't read it”.
- Quizzes/prompts should be included already in the landing page.

Question 3: What are your views on the sign-in?

- Needs to be more fluid / is it mandatory to sign in? Sign-in page took ages to load
- Technical bugs/the page doesn't open in many browsers
- Sign in process ... doesn't work with all servers (Google, Brave, on Mac + Windows) – we had to change computers 3 times and took us more than 15 min to sign in one user – very hazardous process!
- There is a security check ... “Connection not private” message with all new users
- The page doesn't land on ACT4ECO / created lots of confusion
- Faced problems repetitively with “Allow local storage”
- Why does the user have to log out when he's on the website for too long?

Question 4: What are your views on the “Smart Consumers” action?

General action feedback:

- The goal is not clear. “Smart consumer portrayed as futurist and technophile, that's very scary.”
- Info is not delivered in a relevant way: “There are no specific tips that can be applied directly to our daily lives”.
- The term “smart” is very vague and overused. The focus here is very technological, and the emphasis should be on smart behaviour in energy use.
- “We need to see listed out clear action tips, then if we're interested in it then we should click on it to read more. Right now, there are just too many slides and text (written in article mode) that makes it hard to stay engaged in.” “The only reason I read the whole thing is because we're in a group setting, so in case someone asks me a question, I'll be able to respond”.
- Thermostat: “Fairly in-depth information, easy and fun to read. The tone of the writing in general promotes motivation to act”
- Emphasize on the call to action – attainable small actions – tips for everyday use of a thermostat

- It's promoted as a practical tool, but in the end, it's very theoretical. "It feels like it's the Back Office of the homepage – the content should be filtered to our need."

Question 5: What are your views on the "Sustain Efficient Energy Use" action?

General action feedback:

- Content is much more action oriented than in Smart Consumers, even though most tips are too obvious.
- Text is entertaining to read.
- Text/Image layout is too repetitive (boring); it would be great to have another kind of layout.
- Quizzes are great, they help to retain information a lot better.
- Long phrases to say a simple thing. It would be better to have content that goes straight to the point.
- "I knew most of the information in this action, but made me think of more things I could do to improve my energy use..."
- "I knew most of the information, but it helped me validate and structure my thoughts to be able to tell it to other people."
- "It would be nice to see the impacts if users click on the tips, they're willing to undertake."

7.1.2 Important lessons for ECO2

The content would benefit from more concrete / number-based (cost/savings) information, and from an approach that prioritizes actionable tips (what to do) instead of theory (why it works). Adding more myth busters ("did you know ..." sections) could motivate users to explore the theory part of the content. Finally, we should include a "further links" section at the end of each Action topic; even if users don't click, it reassures them.



8 Pilots in Lithuania

KEF conducted a pilot run with 20 participants, the age of which varied between 18-29 years old.

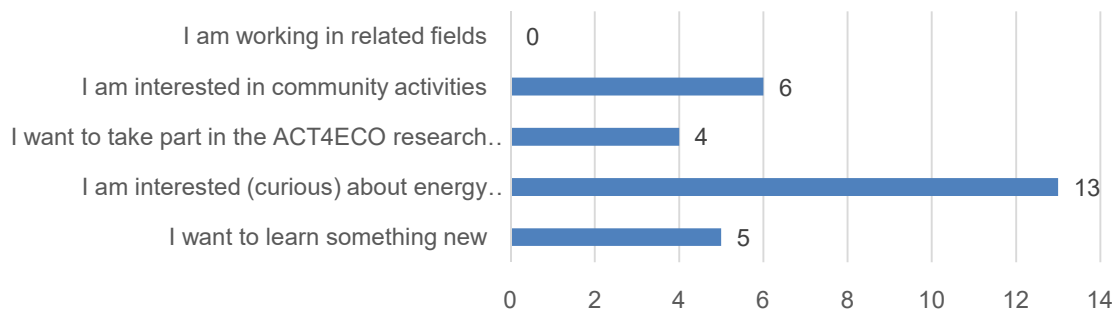
- Female – 10 participants
- Male – 9 participants
- Other – 1 participant

The tested sub-actions were:

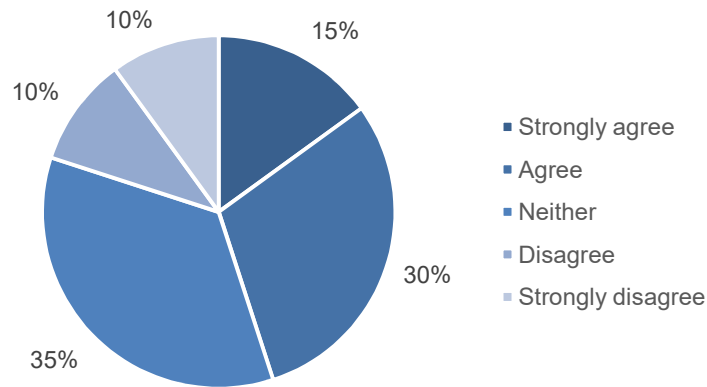
- Understand my energy bills
- The power of household appliances
- Rhythms and routines
- Moving to renewable energies

8.1.1 Self-reflection on the participation

Question 1: Why are you attending today?

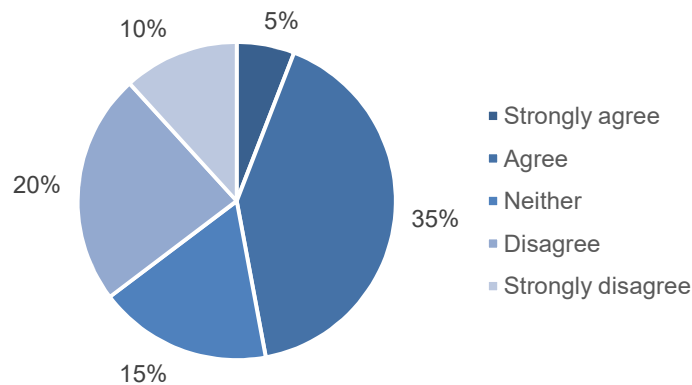


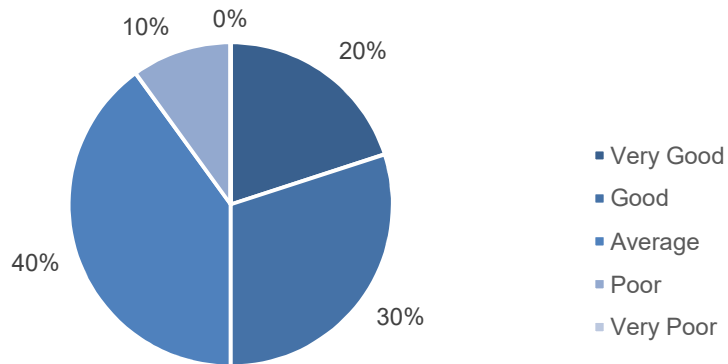
Question 2: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”



Question 3: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

In general, the participants of the pilots stated that their familiarity with energy conservation is above average. Few of them mentioned that they have interest in energy production (1), renewable energy (4), and recycling (3). Though two participants stated that they study in a field, related to energy conservation and one mentioned seeking knowledge about energy conservation on news articles and other internet sources, more of the participants stated that their background on the subject comes from knowledge gained in school.



Question 4: How do you rate your skills in technology?**Question 5:** How do you feel about using e-Learning tools?

All participants of the pilot felt good about using eLearning tools. They described these tools as:

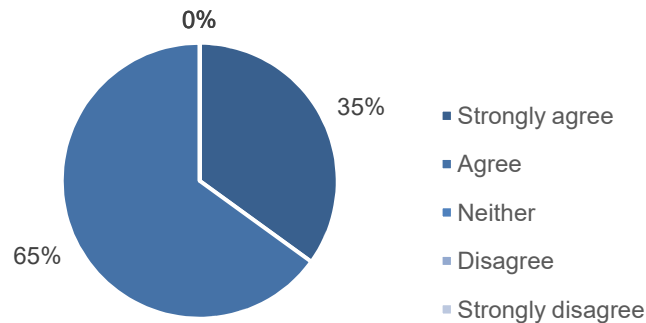
- Generally useful
- Great if the tools have a hands-on approach
- More innovative
- Convenient in helping you find specific information or knowledge
- Mobile / portable
- A faster way to learn
- Interactive

One participant stated that eLearning tools could be a good way of learning; however these tools work only if they are made well. If there are additional necessities the user has comply with in order to learn, the tool is a waste of time.



8.1.2 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing



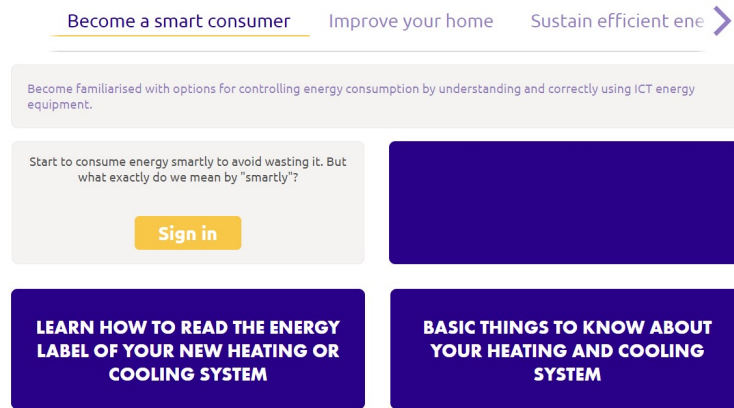
Strengths: The design of the homepage is minimalistic and simple, includes needed information, but is not too loaded and, thus the homepage looks nice and modern. The colours of the homepage are pleasant, not too intense. It is easy to navigate in the homepage; the information is easily absorbed visually.

Areas for improvement: It is worth considering whether to add only the headlines of the articles or to add an excerpt below the photo from that article. If you decide to stick to the article summary, then it is worth thinking about what information to enter there so that the user would want to open and read the entire article.

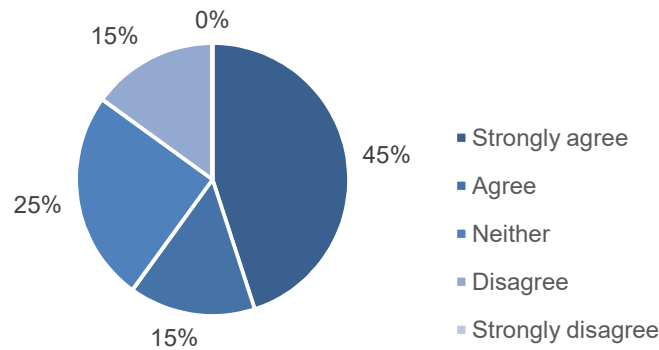
There could be more photos related to saving energy as a background in the homepage (for e.g. windmill, landscapes, which are usually quite easy to associate with ecology).

If you put the mouse on the blue box, the text disappears (*see screenshot below*).





Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO).



Strengths: It is easy to navigate through the homepage and there is a little chance for user to get lost. The basic information for user is included in the homepage.

Areas for improvement: Suggestion to add the section “About” and more information about the registration to answer the question why it is worth to register? For now, it is unclear why user is asked to register in order to use the platform.

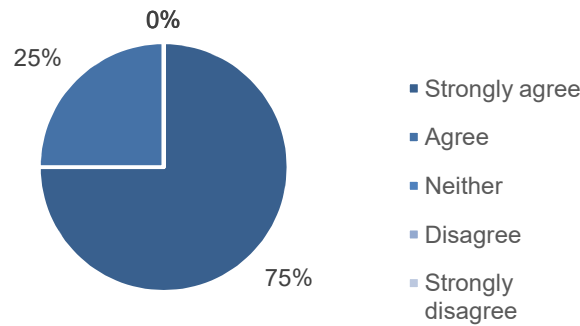
It is disturbing that if user wants to read more about action, he / she has to sign in. It is suggested to add a bit more engaging information about actions to motivate users to register.

It would be useful if more reliable sources with information about energy consumption (articles, links to other websites, etc.) would be added as well (for e.g. “if you liked this, you can also read <...>”).



It would be better if the links to social media channels would open in the new tab automatically.

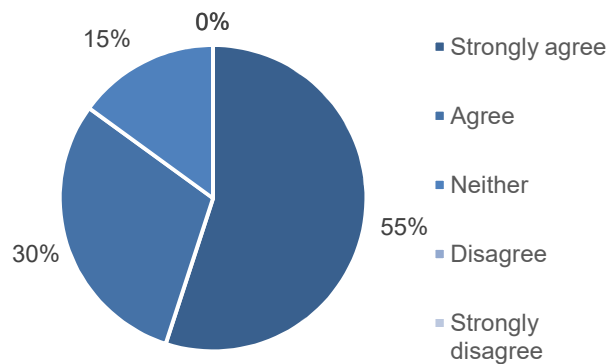
Question 3: I found the ACT4ECO content links were easy to find.



Strengths: The links in the top bar is easy to spot and easy to use.

Areas for improvement: No suggestions.

Question 4: It was easy to find relevant and useful information on the ACT4ECO homepage



Strengths: The titles in the homepage are clear and easily understandable. It is commendable that in the homepage there are included visualizations (especially the illustration of the house and the actions you can take), video as well as news section.

Areas for improvement: To read more, it was necessary to fill in the registration form, which may scare off some of the users. It would be great to add additional videos with information



about the platform (for e.g. that it is free, how long the learning takes, what effect it has, etc.) and then to suggest where you can read about it more widely.

8.1.3 Action-specific feedback

Understand my energy bills

- The picture of the electric bill is very small, users can hardly see anything.
- It is suggested to indicate the parts of the main picture of the electric bills and in the subsequent sections where the more detailed information is provided it would be good to add the pictures again, but with only the part of the electric bill where the information is indicated.
- It would be better if the user would be asked to take his / her electrical bill and examine it while taking this action. This would allow users to spot the changes in consumption in their electrical bill and would make the action more personal.

The power of household appliances

- The picture is missing >> “Have a look at the distribution of energy consumption in EU households”
- The picture is missing >> “Elements of an energy label”
- It would be great if users were provided with more information after answering the question “We’d like to know what you’re willing to do next?”, especially if users choose the option “I discovered interesting facts about appliances energy consumption, but I’m not sure what to do next.”
- How can users be sure that the information provided is reliable? It is suggested to add the links to the used sources, especially about the various facts.
- The same examples about laundry and dishwasher have been repeated too many times.

Rhythms & routines

- It would be more engaging if users could see their progress while completing the actions.
- “Can you do 3 loads of laundry weekly rather than 5” seemed odd for participants, 5 loads of laundry seemed a lot for them.




- “Take a moment to think about your daily routines” – it is suggested to add the questionnaire and also, it would be useful if the user could compare his / her answers with others.
- The quiz is still missing.
- The information in this section is duplicating the information in section about household appliances. Also, the information is repeated in the same action too many times as well (for e.g. about the washing machine).
- Participants of the pilots were not sure if the suggested improvements of habits are the most effective ones. How can users be assured that their actions will bring the expected benefits?
- It is suggested to add additional information about thermostats, smart meters (or the links to the actions where more information about them is provided).

Moving to renewable energies

- The links is not working: <https://www.ucsusa.org/resources/benefits-renewable-energy-use>
- The section is too short
- Examples of DIY would be useful.

8.1.4 Focus group questions

Ease of Use (Navigation / Sign-in / Actions)

- Only a small part of participants tried to register while testing the ACT4ECO homepage. Out of them, no one managed to register on their own. It could be due to the fact that the log in page looks like a sign in page and when people enter credential of their not existing / soon to be account they don't get notified that they are on a wrong page.
 - Most of the participants agreed, that after unsuccessful registration they would not be trying to register again.
 - Also, participants would be willing to register to the platform only if it would be recommended by a friend / colleague, etc.
- 

- The registration form and page is not engaging and looks different from the ACT4ECO page, thus it looks unreliable.
- It would be easier if there would be an option to register through Google or Facebook (one click registration would be more favourable than a registration with email confirmation).
- Participants did not understand why they needed to enter a username.
- The email for the validation of registration seems like something not associated with ACT4ECO, looks untrustworthy.
- “Allow local storage” – written in red colour looks scary. Also, participants complained about the large amount of text that follows.
- The design of the platform changes quite a lot comparing the ACT4ECO homepage and the platform with actions. It would be better that the design would remain the same.
- To include the logos of the project and partners in the platform as well.

Overall suggestions for actions:

- Visualize the options “next” and “back”, for now they are not spotted easily.
- In some of the questions, users would prefer to select more than one option. Intuitively, when there’s a radio button, the users expect to be able to choose only one option and when there’s the check box button, the users expect to be able to choose several.
- The way the text is provided is not engaging, the spaces between lines are different. In some parts there is too much text, in others – not enough.
- Lack of illustrations or other visual elements makes the platform less engaging.
- Some of the pictures / photos are low quality.
- Some information can be changed by video that are more engaging.
- Last section looks unfinished (see screenshot below)



All participants agreed that if the platform would be improved according to the suggestions, they would be happy to recommend the platform to their family member, friends, etc.

8.1.5 Important lessons for ECO2

The homepage of ACT4ECO looks promising and engages to learn more, but the aesthetics of the content part is lacking; while completing the actions participants of the pilots felt less and less engaging. In addition, content would be better received if it was more personal: participants of the pilot indicated that it would be great if more interesting facts would be compared to their reality. At the same time, storytelling elements, such as characters would make the content more engaging.



9 Pilots in Ireland

The UCC team piloted the “Sustain Efficient Energy Use” action. This action consists of three (3) sub-actions which are as follows:

- Side-Effects of Energy Efficiency
- Surpassing Energy Efficiency
- Energy Sufficiency to Maintain Efficient Energy Use

The pilot was conducted online and we received responses from 15 participants. The pilot sample consisted of 7 males and 8 females. 46.7% lived in a city, 33.3% lived in a town and 20% lived in the countryside. The participant age profile is:

<u>18-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>	<u>55-64</u>	<u>65+</u>
0	6	3	1	4	1

Participants lived in a variety of household types both rented and self-owned, with the number of people per household varying from 1 to 6. The majority of the participants used gas to heat their homes (46.7%), 26.7% had oil heating, 20% had electric heating and 1 home was heated by a fireplace.

9.1.1 Self-reflection on the participation

Question 1: “I am energy aware e.g. I am interested in energy use in the home, I read my energy bills”

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
2	5	2	5	1

Question 2: I am knowledgeable about energy issues e.g. I read energy documents; I spend a lot of my time on this topic

<u>Strongly agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly disagree</u>
0	5	3	5	2



Question 3: How do you rate your skills in technology?

<u>Very poor</u>	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Very good</u>
1	2	2	7	3

Question 4: How do you feel about using e-Learning tools?

Participants were asked about their prior usage of e-Learning tools in general. There was a mixed response in terms of familiarity with e-Learning tools but for the majority, e-Learning tools were effective and useful methods of learning and gaining information. However, this positive impression of e-Learning platforms was accompanied with a note that this is only the case when they are easy to use, and do not overload users with information.

9.1.2 Evaluation of the webpage

Question 1: I found the look and design of the ACT4ECO homepage appealing

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
3	8	3	1	0

When asked to expand further on this, participants felt that there was good use of colour and images were attractive. It is worth noting here that more than one respondent said that the scaling was off and they had to scroll to see the whole page. One participant said that 'information was given in manageable blocks'. A number of our participants experienced a '502 Bad Gateway' Error at this point and were not able to go any further. While the majority of the responses were positive, two of our participants did have negative comments including, finding the scrolling tab at the top of the homepage confusing and that some of the links to the action do not take you to the same start point every time. Another participant felt that the homepage was 'a little boring' and stated 'that nothing drags you in'.

Question 2: I found the most important information on the homepage initial view (before scrolling down on ACT4ECO)

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
1	6	6	2	0

Once again participants were asked to expand further on this, some of the participants felt that the right information was there to draw you in but did also agreed that you may have to scroll down before you see it or in some cases follow a few links/drop down menus. One of the

participants stated the following: "I didn't see anything about this being an EU supported project. The trust worthiness of the site therefore was questionable until I scrolled down". "How is this site different from all the other info sites online? I also didn't notice anything about e-learning aspect".

A second said 'I think the buttons on the scrolling slideshow (top of page) should direct down to the middle of the page to "Explore the actions you can take" instead of to the Action Themes Archive page - this page is harder to follow and feels confusing compared to the well laid out homepage'.

A third said that they felt that the information on the homepage was 'asking a question not providing information'.

Question 3: I found the ACT4ECO content links were easy to find

<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
2	3	8	1	1

9.1.3 Focus group questions

Engagement (repeat for Sign-in / Action sections)

Question 1: What kept your attention during your use of ACT4ECO?

When asked about how ACT4ECO kept their attention, our pilot participants suggested words like 'energy saving' 'saving money and 'reducing my footprint' drew them in. They also suggested that the graphics used were nice and that common sense ideas were provided. One of our participants found that the pages were 'too wordy' and that the sentences were too long suggesting that shorter bullets points could be useful.

Ease of Use (Navigation / Sign-in / Actions)

Question 1: How ease did you find it to sign into ACT4ECO?

Participant responses were mixed in terms of how easy it was to sign into ACT4ECO with 40% saying it was easy and 40% saying it was difficult, 13.3% said it was easy and 6.7% found it very difficult.



Question 2: How easy was it to complete the Action section/s of ACT4ECO?

<u>Very Easy</u>	<u>Easy</u>	<u>Difficult</u>	<u>Very Difficult</u>
20%	53.3%	20%	6.7%

When asked to expand on this the responses suggest that although participants found it easy to complete actions, it was highlighted that it was not challenging or testing their learning on the information provided and that the ‘quizzes or questions seemed pointless’.

Question 3: Which part of ACT4ECO was the most challenging for you?

In response to the question ‘which part of ACT4ECO was the most challenging’, we had consistent responses:

- the actions themselves,
- the sign in process,
- participants struggled to sign in
- did not like the idea of local storage
- did not understand the need to go to ‘engagesuite’ and the navigation.

When discussing the navigation process participants highlighted that it was sometimes troublesome and that you had to click through a lot of sections.

Usefulness

Question 1: What insights are you taking away with you today?

A sample of the replies are listed below:

- Ways to save energy
- Ensure that energy efficiency is maintained
- Should become more aware of my own behaviour and how I select and use more energy efficient appliances
- That I’m not using my appliances correctly

Participants stated that the information provided was useful but suggested that it would be beneficial to point out when they should seek help from tradespeople. One respondent stated that ‘once you make your way through the terrible English used I found a few pieces of useful information’.

Responses to this question also highlighted that some of the topics were too long and that the actions could be more focused.



Question 2: Do you plan to make any changes at home to save energy after today?

53.3% of the pilot participants said that they might make changes at home and 46.7% said that they would make changes at home to save energy. For those that said they would make changes at home to save energy some of the responses are listed below:


- Be more aware of excessive use of coal when lighting our home stove
- Change heating settings
- I'll be a bit more aware of my energy use. However, with everything else going on, this seems like a less important issue right now sadly.
- I will use my washing machine more efficiently - i.e. fuller loads

Participants were also asked:

What are your recommendations for improving the ACT4ECO eLearning Platform?

- You need to give specific consideration to navigation - very unclear what is going on
- Language is a bit condescending and overly convoluted in places
- Clarify the learning objective and learning outcomes for each section. Make sure there's a clear purpose for quizzes (not just self-reflection) and ensure they're sufficiently challenging for all. Improve the login to make it seamless (not just tick the box) - logins through Facebook, Twitter, Google are not working. Provide more feedback why login didn't work e.g. wrong password. Make the home page more attractive and trustworthy
- I was using my laptop not a PC and in some slides not all the text was visible at one time
- Make it clearer that you need to click/scroll through the headings in the 'act now' section for further content
- Make sign-in easier, ideally without redirect link in the email. Might be better just to tell user to return to the site and refresh the page. Ensure "complete" buttons are working at end of sections. Consider audio and video content within the slides to keep up engagement.
- The site sections should flow from one into another instead of having to go back. The English used is over complicated or incorrect and there's a lot of information in one go it needs to be spread out. Also people are being made to feel guilty for using appliances they always have, this needs to be communicated better without guilt attached
- Maybe interactive or printable checklists for actions
- Perhaps an online chat portal if people have queries

What are your thoughts about using ACT4ECO in the future?

- I would check back on it once it's finished
 - I'd be motivated to use it if there was some purpose - e.g. a certification at the end, some reward for being involved like a leader board
 - I may come back to look at some of the other actions
- 

- I would use this website, once a lot of changes are made. Navigation or movement through the site is poor, better explanation of everything, without repeating the same thing in the on the same screen.

Additional Notes:

During the pilot phase, some of the participants experienced difficulty loading the ECO2 platform and got a '502 bad gateway' error message.

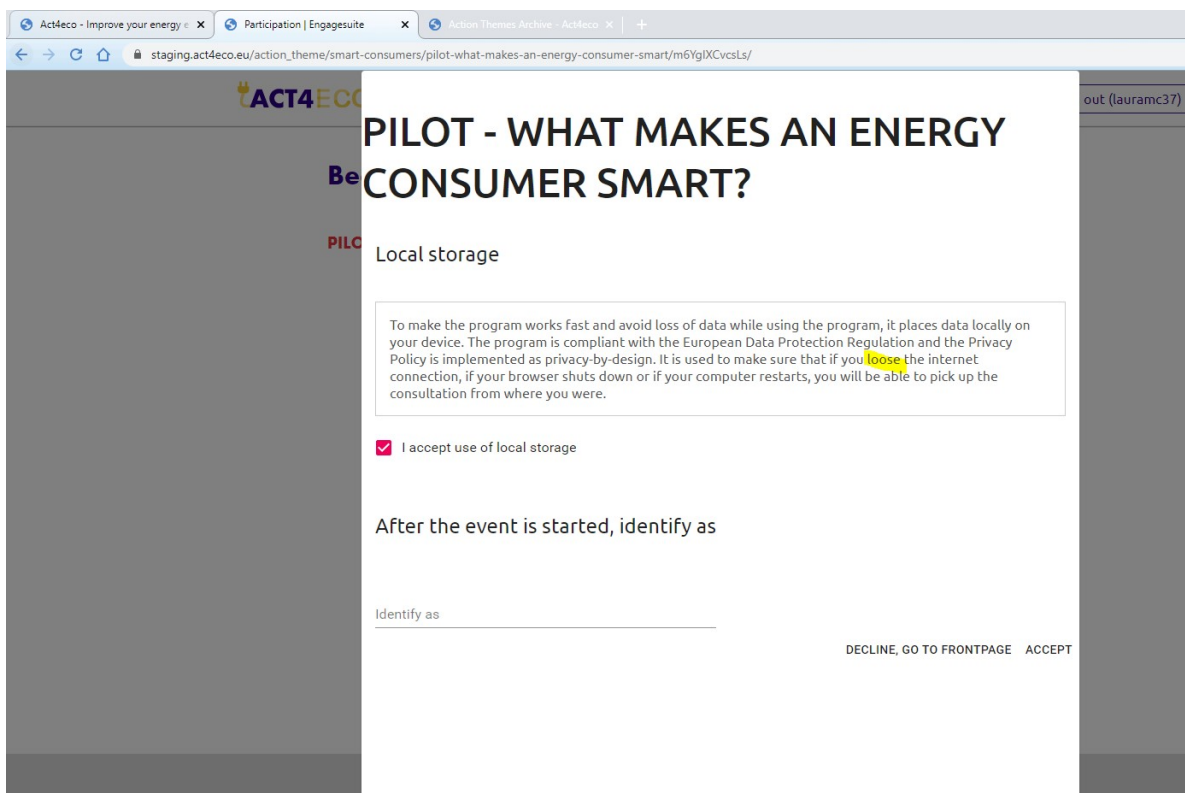
At the end of the sub actions the 'complete button' does nothing.

Once you finish the first sub-action you are sent back to the homepage; it should bring users back to the page to easily move on to the next sub-action.

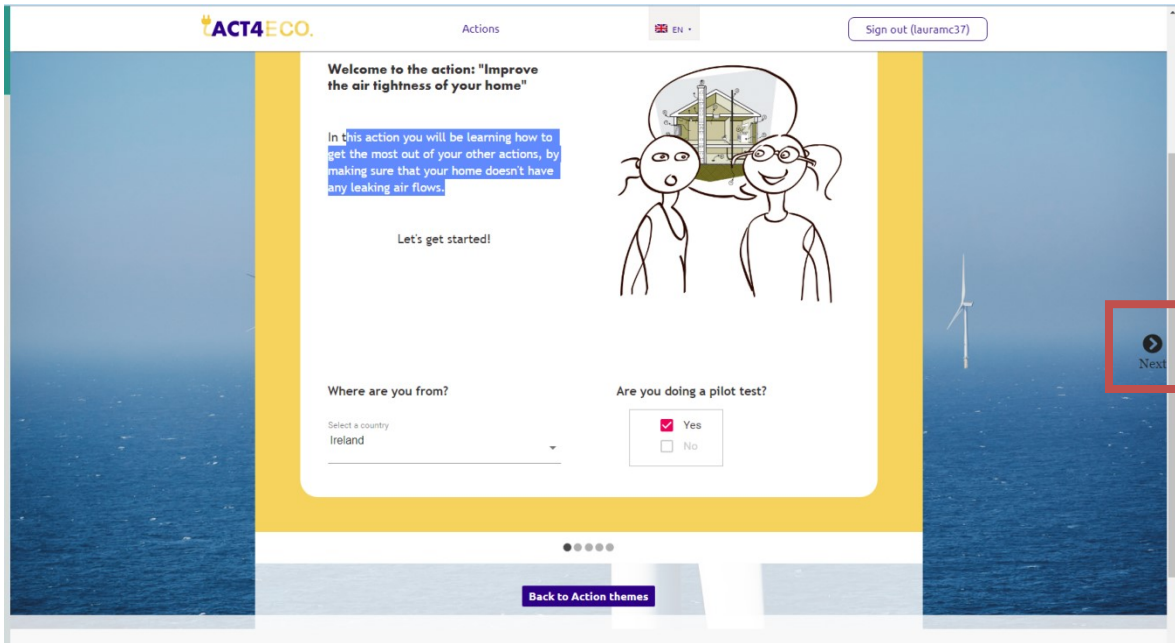
Suggestion made to include a checklist or step –by-step approach to start the action 'journey'.

Having to agree to local storage to proceed is very off putting.

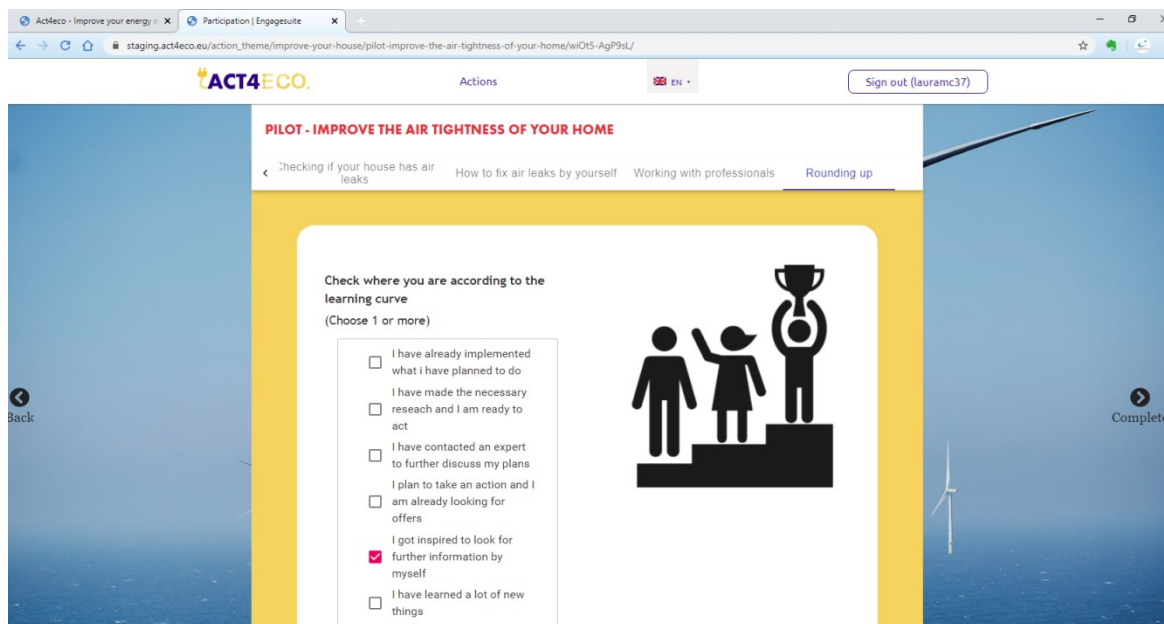
Might need more plain language for the sentence "After the event is start, identify as:"



The "Next" button gets a bit lost against the blue background:



Complete button not working:



Suggest that you edit the question responses slightly, like so:

1: I was born curious, I'm here to learn!

2: It seems that I'm responsible so I'm here to find out how I can improve my energy use

or

I'm responsible for my household, I'm here to find out how I can improve my energy use

3: I want to act! I'm here to find out how

4: I'm confused, I don't like talking about about existential issues. Huh?!

Maybe something like...

The issue/energy efficiency confuses me, I'm looking for plain language advice.

9.1.4 Important lessons for ECO2

We should avoid coming across as a bit self-righteous; we want people to change their behaviour not necessarily make them feel bad for their current behaviours. The content should focus more on extolling the added benefits of the behaviour changes we are suggesting. If we make people feel bad for "not doing enough", they may decide it's not worth trying and give up entirely, whereas if we frame it as if these behavioural changes are a way of improving even further then that would better motivate them to do more.

