

Green Education & Transition - A Higher Education online Digital Buddy

DELIVERABLE 5.2

WP digitization and development in GET-AHED Platform

January 2025





Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Basic project information

Project title	Green Education & Transition - A Higher Education online	
	Digital Buddy	
Acronym	GET-AHED	
Project number	101087248 — GET-AHED	
Start	February 2023	
End	January 2026	
Website	www.get-ahed.eu	
Project team		



WPZ Research GmbH, Austria (WPZ Research)



Universidade de Aveiro, Portugal (UAveiro)



Munster Technological University, Ireland (MTU Hincks and MTU TEL)



University of Ruse "Angel Kanchev", Bulgaria (URAK)



FH Vorarlberg – University of Applied Sciences, Austria (FHV)

Information on the document/report

Dissemination Level	Internal
Due date of Deliverable	31 st January 2025
Work Package	WP5
Lead Beneficiary	Munster Technological University (MTU TEL)
Туре	R — Document, report] [DEM — Demonstrator, pilot, prototype SENSIBLE
Status	Complete



Contents

1. Introduction	
About the GET-AHED project	1
About this Document	2
2. WP5 Platform overview	3
Platform Function	3
Platform Features	4
3. Platform Technical architecture	8
Layout & Design	10
4. WP2 Functionality	13
About WP2	13
WP2 functionality within the WP5 platform	14
5. WP3 Functionality	18
About WP3	18
WP3 functionality within the WP5 platform	19
6. WP4 Functionality	2 4
About WP4	24
WP4 functionality within the WP5 platform	25
7. Next Steps	27
References	29



1. Introduction

About the GET-AHED project

GET-AHED (Green Education & Transition - A Higher Education Online Digital Buddy) Project creates a digital platform developed in consultation with several associate partner EU ministries, HEI representative bodies and an existing European University alliance, a resource that will provide HEIs across EU with a range of online tools to enable them to implement EU's Green Transition, Green Education, and the corresponding Training priorities. GET-AHED therefore acts as a green transition digital buddy for the HE community across the EU. The platform aims to provide a range of tools to allow a multiple of HE stakeholder groups to promote and develop whole institutional approaches to sustainability which will focus on:

- Designing, implementing, and monitoring institution sustainability plans.
- Supporting Higher Education leaders, in embedding sustainability into all aspects of the institution's operations.
- Supporting staff and students in promoting greater involvement in sustainability initiatives both internally and externally.
- Designing, implementing, and monitoring approaches related to sustainability operations of a given HEI, particularly with energy and energy related systems.

The final deliverables of GET-AHED will be made available on a user-orientated online digital platform and will be promoted with the assistance of associate partner ministries and HE representative bodies. Ideally, the aim of project partners is to have the online tools and associated training initiatives to become the basis of (or be integrated into) current and future EU led online green transition initiatives. The GET-AHED digital platform is anticipated to have a reach and impact that will be far greater than traditional face to face conference, seminar, and other training events. GET-AHED specifically aims to develop the following online tools to be made available on a one stop digital platform to supports HEIs with the green transition.



About this Document

The aim of this document is to provide an overview of how the results of GET-AHED WP2 (HE Green Assessment), WP3 (HE Green Champions) and WP4 (HE Green Zero) have been "digitised" and designed, implemented and integrated into the GET-AHED WP5 platform in a fully functional format, to provide the full set of functionality envisaged in the project proposal for the developed WP5 output.

In this document, the key features of the platform are outlined along with the design and development activities which have been undertaken with a view to digitising WP2, WP3 and WP4. From this, a platform specification is offered which outlines the key features, base infrastructure, platform structure and visual identity which has been used in the development of the WP5 platform.

The development process for the WP5 platform was based on a combination of approaches. In particular, a design thinking approach was utilised (Rowe, 1991). The application of design thinking approaches towards effective digital learning design has been long established and is nowadays standard industry practice (Ostrowski et al, 2015; Saputra & Kania, 2022; Purwanto et al, 2022). The development process utilised an iterative approach which drew upon the use of the Successive Approximation Model, which has been established to offer various benefits to digital learning development (Jung et al. 2019; Allen, 2012). This process has also resulted in a number of iterative outputs which have been used for testing, feedback and refinement to inform the development of WP5.

- White Paper: Development of a white paper for platform
- User Persona & Workshop: Analysis & development of User Persona
- Specification document: Outline of key features and design and development activities
- <u>UI/UX study of HEIinnovate:</u> Analysis and mapping of HEI innovate structure
- Prototype 1: Development of online 6 month prototype and partner feedback & analysis of 6
 month prototype
- Prototype 2: Development of online 12 month prototype and partner feedback & analysis of
 12 month prototype
- Visual Identity V1: Range of initial options re visual identity
- WP3 Digital Training Course: Development of indicative online e-learning course
- WP4 Digital Case Study: Development of indicative online case study



While the below represents a fully realised iteration of all WPs within the WP5 platform, it is felt that it is important for the project and partnership to retain some flexibility with respect to the platform moving forwards in order to be responsive to user feedback and changing circumstances. The information and recommendations contained within this document may be subject to changes based on user testing and feedback, stakeholder advice, amendments to budget and timelines, availability of new tools, security considerations, etc. These requirements however need to be tempered with respect to available remaining budget, resources and available time.

2. WP5 Platform overview

Platform Function

The purpose of WP5 primarily relates to promoting and supporting whole institutional approaches to sustainability. The WP5 platform is identified as follows in the project proposal:

"The platform will provide a range of tools to allow a multiple of HE stakeholder groups to promote and develop whole institutional approaches to sustainability which will focus on:

- Designing, implementing, and monitoring institution sustainability plans
- Supporting Higher Education leaders, in embedding sustainability into all aspects of the institution's operations
- Supporting staff and students in promoting greater involvement in sustainability initiatives both internally and externally.
- Designing, implementing, and monitoring approaches related to sustainability operations of a HEI and in particular energy and energy related systems"

The platform (WP5) is therefore required to incorporate the results of the other GET-AHED WPs and express these in a digital format:

WP2: "HE Green Assessment"

- An online self-assessment to assess an institution in terms of the level of integration of sustainability and green transition across a range of indicators and dimensions.

WP3: "HE Green Champions"

- A series of e-learning training courses to train HEIs about how to be more sustainable.



WP4: "HE Green Zero"

- A series of case studies to show HEIs how to be more sustainable.

All of the developed tools are accessible to users from the home page of the platform, as was agreed between partners as part of a discussion of layout and access:

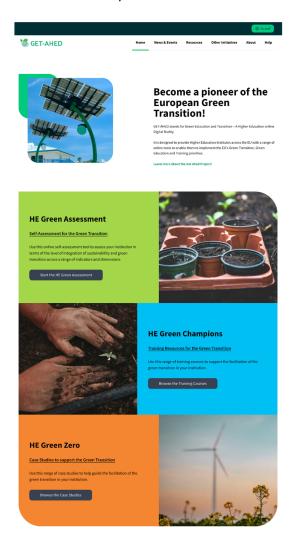


Figure 1: WP5 Homepage with links to tools

Platform Features

Within this functionality outlined above, there are a range of platform features required to support the overall desired user experience.



User registration & account creation

There is a need to allow users to create their own accounts on the platform. This is important on a number of levels. The target audience needs to be able to develop their own profiles in order to access the system and for the project to be able to record user registration. For sustainability purposes, new users need to be able to continue to access the platform into the future. Registration has been designed to be as straightforward and intuitive as possible - although this may need to be balanced with data collection for reporting purposes.

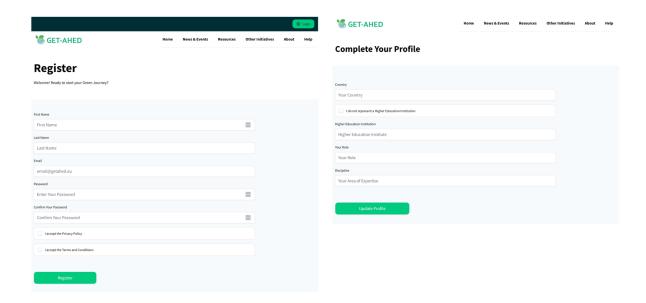


Figure 3: WP5 Registration Process

Figure 4: WP5 Registration Process

User Dashboards

As the platform requires the ability to offer differing content depending on the results of the self-assessment results and the different type of target audience; and in order to help provide a positive user experience, the platform must be able to provide a clear dashboard to users to allow them to determine next steps. This represents a "bringing together" of WP2, WP3 and WP4 with a view to facilitating WP2 results and content recommendations based on same.





Figure 4: User dashboard

WP2 Green Assessment

There is a need, as part of WP2, to provide a range of self-contained and specific survey question sets which users can fill in and which would then provide feedback and feed into their user experience. Within the platform, these have taken the form of a Likert scale rating which allows for specific statements in specific WP2 dimensions to be rated on a 1-5 scale. The results of a users' selections are stored within the platform and are used to recommend specific content.



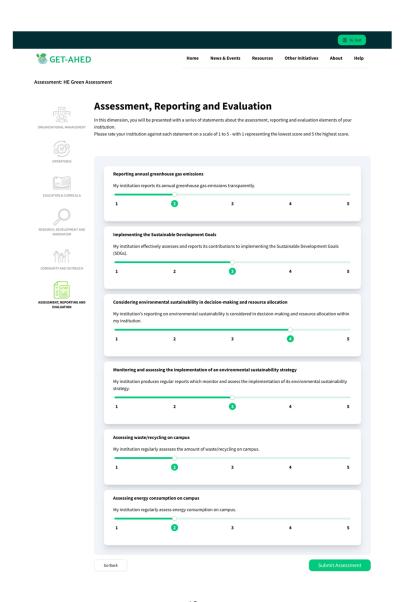


Figure 5: WP2 Self-Assessment process

Course provision & tracking

There is a need, as part of WP3, to provide an online training experience which provides access to users with a range of asynchronous e-learning training modules. The nature of the training will vary, but is broadly envisaged as provision of training content, offering assessment, etc. In addition to allowing users to enrol in and undertake the e-learning training, additional requirements will relate to tracking and supporting a mechanism to record completion of these courses by users and to provide platform analytics.



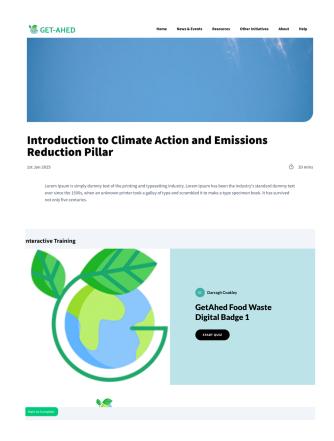


Figure 6: WP3 Course Provision

3. Platform Technical architecture

The current iteration of the GET-AHED platform can be broken into 3 parts:

- Project API, the core Content Management System for the project
- The Web App, the user facing part of the project
- SCORM API, a small server which serves and manages the SCORM content

All 3 parts are hosted on a Digital Ocean server.



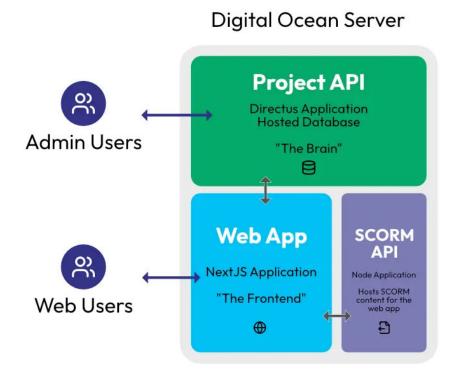


Figure 7: Platform architecture

The API (CMS)

The API is a Directus application with a co-located database. Admin users (e.g. GET-AHED partners) should be the only users interacting with this part of the platform. All data for the web app can be edited here, including page, images and assessment questions and feedback.

The Web Application

The web application is what the target users see with respect to the GET-AHED platform. This handles all interaction using statically rendered web pages and collects data from the API (directus application) or the SCORM API (when viewing a training course - i.e. WP3 or WP4 course)

SCORM API

The SCORM API is a standalone web server that serves the SCORM content. Directus is not able to render the content itself, so the SCORM API serves the necessary files when the web app looks for training courses that feature SCORM content.

The other software employed by the platform are more standard pieces:



- DNS: Cloudflare is used to route traffic to the web application
- Emails: Mailgun is used to send the password reset emails
- Status: UptimeRobot solution, The API and web application are monitored every minute to ensure they remain online.

Layout & Design

The design of the GET-AHED WP5 platform has been based primarily on adherence to 4 key elements:

Colours

Colours derived from the GET-AHED logo with the addition of a complementary colour - orange. Colour is used primarily in buttons, to highlight important information, in vector icons, to help with categorization of themes and/ or topics. The developed colours have been aligned to specific themes - nature/ growth, trust/ serenity, energy/ warmth. All colours are colour blind safe and pass a colour contrast checker test.

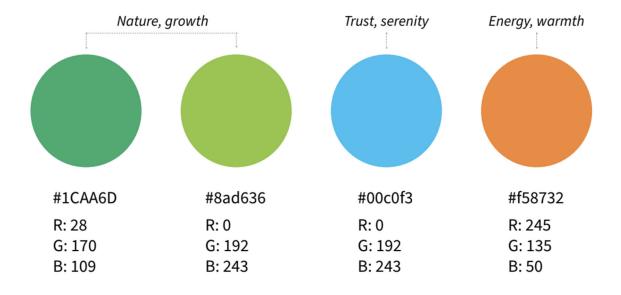


Figure 8: Colour Scheme

Imagery

Imagery in the platform primarily relies on stock photography in order to present a professional and formal tone.



The stock imagery used focuses on context and relevance to the project - e.g:

- A "Green" university/ campus environment.
- Activity shots people doing, people being proactive.
- Shots of nature and the natural environment.
- "Green initiatives" representing e.g. renewable energy, circular economy, etc.

All imagery selected for the platform will ensure a focus on inclusivity and will avoid stereotyping and gender bias.









Figure 9: Imagery

Additionally, the use of imagery in the GET-AHED platform also has a masking effect which is used for the presentation of "header" images in the platform.







Figure 10: Imagery masking effect



Iconography

The icons used in the platform are used in conjunction with photography throughout the website. Icons are used primarily to represent and categorise content elements. Iconography to be used in involves the following features designed to present a uniform look and feel across applications:

- Flat vector style
- Minimal in details
- Consist in size and line thickness



Figure 11: Iconography

Fonts

This chosen typeface for the platform is:

- Source Sans Pro Regular
- Source Sans Pro Semibold
- Source Sans Pro Bold

This same font is also used in the GET-AHED project website.

The used of text within the system has been designed to:

- avoid overwhelming the user with too much information on one single page
- ensure that text is kept short, concise and to the point



- stick to shorter lines of text (50-75 characters)
- stick to 2 different font sizes using primarily colour and weight to show hierarchy

4. WP2 Functionality

About WP2

WP2 is dedicated to the HE Green Assessment tool. The work package is led by UAveiro with contributions by all project partners. It aims to develop a tool to support higher education institutions (HEIs) in assessing their performance with a view to environmental sustainability in their strategies, activities and missions. To achieve this, the tool builds on a set of dimensions and indicators which were subject to develop in the first half of the project duration.

HE Green Assessment is modelled on the EU's HEInnovate (2023) online tool. It will enable HEIs to evaluate their integration of environmental sustainability across various dimensions and indicators. The term dimensions refer to HEI structures or activities (e.g., teaching and research) targeted by the assessment, moving beyond operational levels, as recommended by Mapar et al. (2022). Indicators are defined as scaled statements that measure performance within each dimension. The definition of dimensions and preparatory work for defining indicators as well as for the interlinkages between the three tools were subject to the publication Régent et al. (2023).



WP2 functionality within the WP5 platform

The HE Green Assessment functionality begins when the user selects the HE Green Assessment option from the home page of the platform

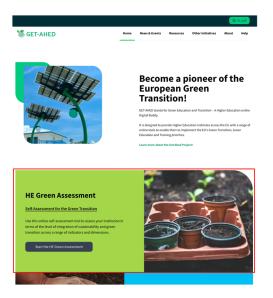


Figure 12: WP2 process

From here, the user is provided with a "landing page" for the HE Green Assessment which outlines what this section of the platform provinces and is focused on. From here the user can select the HE Green Assessment relevant dimension which they wish to engage in

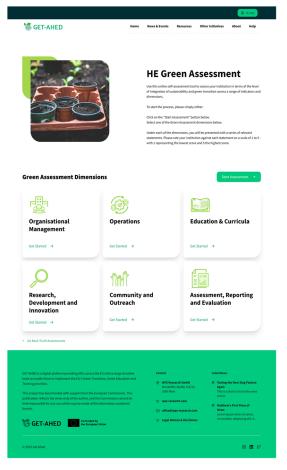


Figure 13: WP2 process



In each HE Green Assessment dimension, the user is presented with a series of statements which they respond to using a Linkert scale determination.

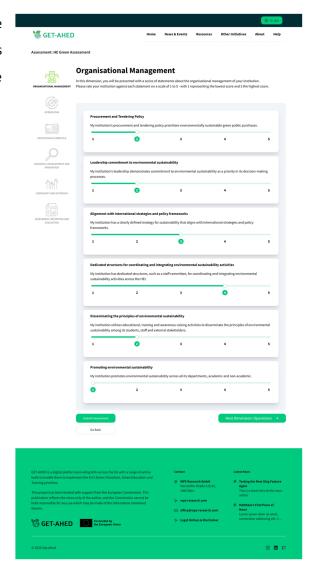


Figure 14: WP2 process



When a user has completed all statements for a particular dimension, they can clock on the option to move to the next dimension, or else can submit the assessment entirely.

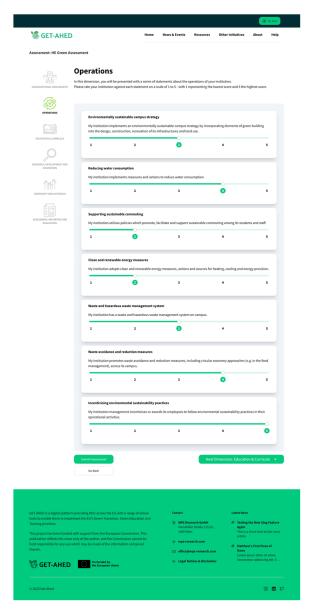


Figure 15: WP2 process



Users can also move through the dimensions by clicking on the relevant dimension icons on the left-hand side

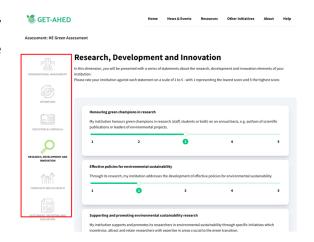


Figure 16: WP2 process

Once the user has submitted the HE Green Assessment, they are then presented with a dashboard, from which they can see the results of their self-assessment.

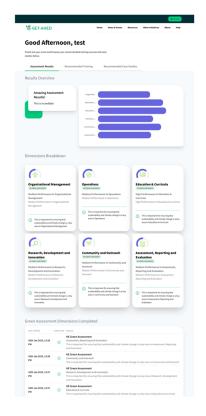


Figure 17: WP2 process

Through this process, the WP5 platform provides a tool to support higher education institutions (HEIs) in assessing their performance with a view to environmental sustainability in their strategies, activities and missions. It does so by presenting indicator statements associated with a set of specific dimensions which users can complete with a view to their own institution. Results are stored and



interlinkages between the WP3 training courses and WP4 case studies allow for tailored options based on the results of the WP2 self-assessment. This ensures that HE Green Assessment is not necessary a results-oriented tool, but much rather a process-oriented tool which is supposed to support HEIs in improving the environmental sustainability performance.

5. WP3 Functionality

About WP3

The primary aim of WP3 is to provide three comprehensive sets of Green Champion training resources for (a) Leaders (b) Staff and (c) Students. These resources needed to provide users with the knowledge required to become a GreenChampion based on their role within their HEI, i.e. HE-GreenChampion-Leader, HE-GreenChampion Staff, and HE-GreenChampion Student. The training resource material has been designed encourage green transition initiatives providing individuals with the know-how for networking, collaboration and developing an active green transition mindset across their HE. Content includes appropriate Teaching and Learning tools with an online digital focus and capable of adaptation to the GET-AHED platform.

A special consideration that was deemed necessary in the development of WP3, was to map the results of the 6 dimensions associated with the self-assessment toolkit for management to the 6 key pillars for learning and development. This step has ensured the results of the self-assessment recommended a set of learning and development content, based on individual results in order to add value to the platform and further address any knowledge gaps.



WP3 functionality within the WP5 platform

The HE Green Champions functionality begins when the user selects the HE Green Champions option from the home page of the platform

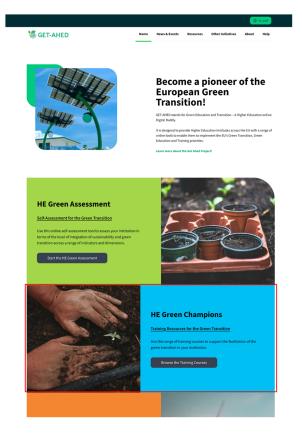


Figure 18: WP3 process



From here, the user is provided with a "browsable hub" for the HE Green Champions courses. This allows them access to all WP3 training courses and users can identify and search for the courses which they wish to undertake.

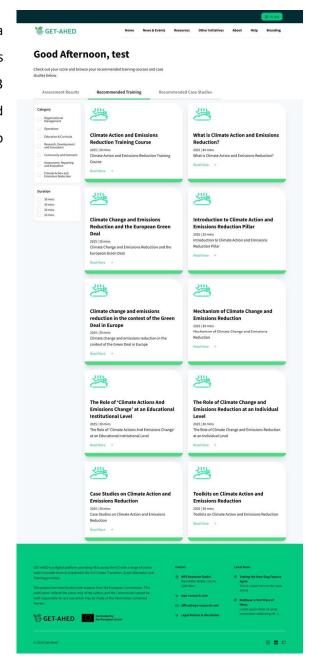


Figure 19: WP3 process



Once selected, a course is presented and contained within a specific page which provides a title, a header image and initial text (to outline details and considerations about this specific course) alongside the interactive training content

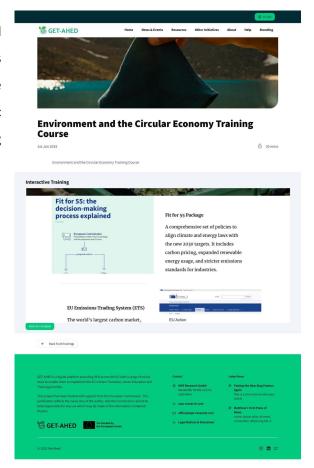


Figure 20: WP3 process



The interactive training courses - based on the agreed structure for training content between the WP3 lead and the WP5 lead - will feature a range of media and interactive activities within each course

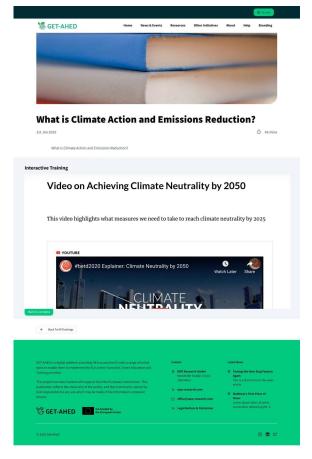


Figure 21: WP3 process



It is also envisaged that most WP3 training courses - where relevant - will feature a short self-assessment activity (or number of activities) primarily based around automated Multiple Choice QUizzes (MCQs) and/ or "pen and paper" reflection questions



Figure 22: WP3 process

In addition to the "browsable hub of WP3 courses, upon completion of the WP2 self-assessment ("HE Green Assessment"), a section of the user dashboard - under "Recommended Training" - will also suggest a range a training courses the user could benefit from, based on the results of their self-assessment.

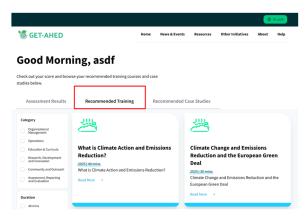


Figure 23: WP3 process

Through this process, the WP5 platform provides access to a wide range of training resources. Said training resources have been designed to be self-contained asynchronous learning course, featuring a combination of learning content, media resources, interactive activities and automated assessment. Training resources have been designed to be granular and effective and are branded in accordance with the GET-AHED visual design for WP5, to ensure consistency in user experience.



These resources can be accessed in an "open" fashion by users having full access to all available training resources; but are also made available to users as "recommended training" based on the results of the user's HE Green Assessment self-assessment. In this way the WP3 resources correlate with the dimensions of WP2 to cross-reference the various GET-AHED project tools.

6. WP4 Functionality

About WP4

Work Package 4 of the GET-AHED project focuses on creating an online tool called HE Green Zero, dedicated to improving sustainable operations in HEIs, particularly in energy and energy-related systems, with the goal of achieving net zero energy on campus sites. This work package involves searching for good practice examples, evaluating them in peer review settings with relevant stakeholders, and supporting knowledge transfer from advanced to developing HEIs.

Within the WP5 platform, WP4 primarily takes the format of a range of case studies, which have been developed and selected based on analysis, discussion, and evaluation of identified best practice examples based on external stakeholder involvement.



WP4 functionality within the WP5 platform

The HE Green Zero functionality begins when the user selects the HE Green Zero option from the home page of the platform

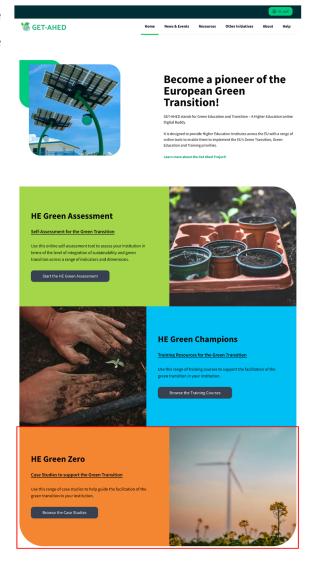


Figure 24: WP4 process



From here, the user is provided with a "browsable hub" for the HE Green Zero case studies. This allows them access to all WP4 case studies and users can identify and search for the case studies which they wish to undertake.

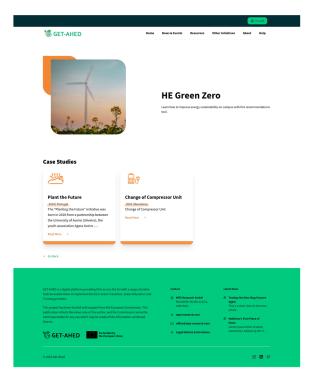


Figure 25: WP4 process

Once selected, a case study is presented and contained within a specific page which provides a title, a header image and initial text.

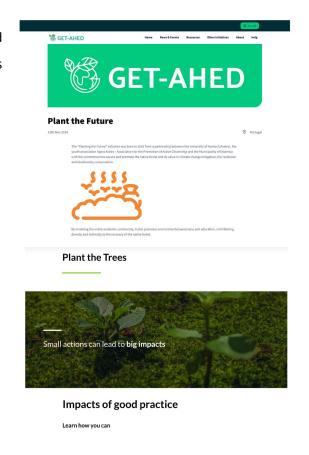


Figure 26: WP4 process



The case studies - based on the agreed structure for training content between the W43 lead and the WP5 lead - will feature a range of media and interactive activities within each course

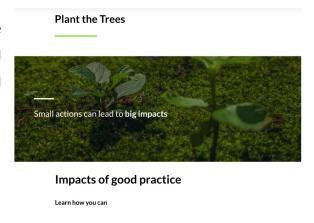


Figure 27: WP4 process

In addition to the "browsable hub of WP4 case studies, upon completion of the WP2 self-assessment ("HE Green Assessment"), a section of the user dashboard - under "Recommended Case Studies" - will also suggest a range a Green Zero case studies courses the user could benefit from, based on the results of their self-assessment.

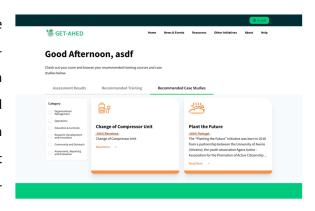


Figure 28: WP4 process

Through this process, the WP5 platform provides access to a wide range of case studies - which can be accessed in an "open" fashion by users having full access to all available WP4 resources; but are also made available to users as "recommended case studies" based on the results of the user's HE Green Assessment self-assessment. In this way the WP4 resources correlate with the dimensions of WP2 to cross-reference the various GET-AHED project tools.

7. Next Steps

The next steps for the WP5 platform will primarily revolve around continued user testing and refinement of the platform for the remainder of the duration of the project.

Piloting Phase 1

This would involve some initial usability testing based on the available platform primarily among the GET-AHED partnership. This will focus on a small group of users completing key tasks within the

101087248 — GET-AHED

GET-AHED

application and would involve gathering feedback from users in order to identify best practice, areas

for improvement, etc.

Envisaged timeline: February 2025

Piloting Phase 2

This would involve some initial usability testing among the project target audience and stakeholders.

This would - again - involve testing with a small group of users to focus on key tasks within the

application, in addition to general first impressions, usability, general design, etc. This stage would

also seek to outline more general considerations related to promotion of the platform, dissemination

of the project, support and guidance, etc.

Envisaged timeline: April/ May 2025

Piloting Phase 3

A final phase of usability testing using the third paper prototype. This final phase of prototype piloting

would ideally involve providing the general public of target audience users to a product which should

be fully usable and should fit the parameters of previously developed project guidelines.

Envisaged timeline: September 2025

28



References

Rowe, P. G. (1991). Design thinking. MIT press.

Ostrowski, S., Rolczyński, R., Pniewska, J., & Garnik, I. (2015). User-friendly e-learning platform: A case study of a design thinking approach use. In Proceedings of the Multiimedia, Interaction, Design and Innnovation (pp. 1-8).

Saputra, D., & Kania, R. (2022). Designing User Interface of a Mobile Learning Application by Using a Design Thinking Approach: A Case Study on UNI Course. Journal of Marketing, 2(2), 14-32.

Purwanto, E. S., Jap, E. B., Wijaya, E. S., Juwanda, R., & Sari, A. C. (2022, October). Application of design thinking in the creation of ui/ux on e-learning websites. In 2022 4th International Conference on Cybernetics and Intelligent System (ICORIS) (pp. 1-6). IEEE.

Jung, H., Kim, Y., Lee, H., & Shin, Y. (2019, April). Advanced instructional design for successive E-learning: Based on the successive approximation model (SAM). In International Journal on E-learning (pp. 191-204). Association for the Advancement of Computing in Education (AACE).

Allen, M. (2012). The Successive Approximation Model (SAM). In Trends and Issues in Instructional Design and Technology (pp. 67-81). Routledge.