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Wind4Bio

Increasing the Social Acceptance of Wind Energy

ACTIVITY AII.3

DII.3.1 Consultation mechanism evaluation report



June 2024

DII.3.1 Consultation mechanism evaluation report

Authors: Vasileios Kokkinos (University of Patras), Eirini Stergiou (University of Patras)

Project: Wind4Bio

Activity: A II.3

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The opinions put forward in this report are the sole responsibility of the author(s) and do not necessarily reflect the views of the Federal Ministry for Economic Affairs and Climate Action (BMWK).

Executive Summary

The consultation mechanism of the Wind4Bio project is part of Activity AII.3 “Development of an online consultation mechanism for environmental and civil society organisations to identify biodiversity threats during wind power projects deployment, operation and decommissioning”. It was developed by University of Patras, based on the conceptual and functional design proposed by PROMEA, and is available at the following link: <https://wind4bio-mechanism.upatras.gr>.

Following the development, and according to the Grant Agreement, Green Liberty and WiseEuropa tested the mechanism for a period of two months and provided feedback. In addition, UPAT and PROMEA proceeded with the testing procedure. This report constitutes the evaluation report of the mechanism, summarizing the testing results and providing the main proposals for improvement after the assessment.

The report is structured as shown below:

- Section 1 briefly describes the scope, objectives and partners’ roles for activity AII.3, according to the Grant Agreement.
- Section 2 presents the consultation mechanism in detail, giving specific emphasis on its functionality and the available user roles.
- Section 3 describes the procedure that partners followed in order to test and assess the consultation mechanism and includes the targets and KPIs that the consortium should reach.
- Section 4 includes the testing results and suggestions for improvement.
- Annex A presents the Evaluation Form – Questionnaire that was filled in by the partners.

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1 Activity II.3

The Activity II.3 of the Wind4Bio project is entitled: “Development of an online consultation mechanism for environmental and civil society organisations to identify biodiversity threats during wind power projects deployment, operation and decommissioning”.

It is part of the Work Package II “Improving cooperation between public authorities and the civil society to mitigate the impact of wind farms on biodiversity” and employs results on the following activities of WP II:

- A II.1 “Identification of good practices on improving cooperation between public authorities, environmental NGOs and other civil society organisations, pertaining to the deployment of wind power projects in areas of increased biodiversity” and
- A II.2 “Thematic workshops on improving cooperation between public authorities and civil society, increasing civil society’s involvement and facilitating the joint design of a permanent consultation mechanism”.

In addition, the consultation mechanism will be used in A II.4 “Organisation of public consensus-building and dissemination events with local communities and civil society” to promote the Wind4Bio approach and build consensus on sustainable territorial wind energy development strategies.

1.1 Activity description and partners’ roles

The activity took place online, and regarding the partners’ role:

- UPAT supervised the activity and was responsible for the technical development of the online platform.
- PROMEA was responsible for the conceptual and functional design of the mechanism.
- Green Liberty and WiseEuropa provided feedback for the development of the consultation mechanism.
- UPAT prepared the evaluation report, providing a description of the development process.

1.2 Expected results

The consultation mechanism will allow an earlier identification of biodiversity threats, leading to a more effective and proactive risk mitigation strategy, through the involvement of local communities and environmental NGOs in monitoring and mitigating the impact of wind farms on biodiversity. As a result, the consultation mechanism is expected to increase the transparency and curb local opposition to wind energy projects by making the civil society an integral part of wind energy planning and biodiversity preservation.

2 Consultation mechanism description

The online wind farm mapping platform (consultation mechanism) has been developed to allow users to discuss with public or private organizations and identify biodiversity threats in areas where wind farms are operating or will operate. Communication takes place through forums created per park, and through these forum discussions, any organization can draw useful conclusions about biodiversity.

The platform also features a map on which areas with wind farms are shown and can be added, and in the case where a user selects the park of their interest, they can be informed about the biodiversity in the wider area. In this way, the user is aware of the biodiversity status as well as the threats to biodiversity per area/park. A necessary prerequisite for a user to participate in the consultation mechanism is to create an account and become a member of the system.

The above capabilities are available for users with the role of a *member*. The implementation has some additional management functions for the other user roles of the system (*creator, admin*), who are responsible for defining wind parks, adding wind turbines within the parks and any information related to biodiversity by uploading relevant files, as well as editing/creating system users. Additionally, in each wind park, there is the capability to add a research form with targeted questions, which users fill out and submit. With the collection of user information, stakeholders can gather useful feedback for further analysis and better policy making.

The main goal of the online consultation mechanism is to establish a communication channel between interested parties and citizens so that they can share knowledge, highlight existing problems, propose solutions, and be timely informed about risk prevention. By combining all the above, the mechanism can help protect biodiversity in wind parks.

Overall, the mechanism functions can be seen in Figure 1.



Figure 1. Wind4Bio online platform's core functions

2.1 Technology and tools

The platform has been implemented at a full stack level, featuring different technologies both at the front-end and the back-end. More specifically, the platform was implemented under the Laravel Framework, which is based on the PHP programming language. A database has also been designed and implemented, which, in turn, communicates with the full stack part.

This specific technology is based on the Model View Controller (MVC) software architecture model, which is modern and requires object-oriented programming logic. The list below shows the main packages used and a brief description of their function:

- `Laravel/ui`: Responsible for login authentication functions and page representation.
- `riari/laravel-forum`: Responsible for the functions and pages of the forum.
- `petercoles/multilingual-country-list`: Provides functions to convert a country code (`country_code`) to its name (`country_name`).
- `outhebox/blade-flags`: Provides countries' icons.
- `spatie/laravel-permission`: Creates new tables in the database for storing user roles and permissions, as well as functions for assigning them.

For the map functionality, an integration has been made with two APIs: The Google Maps JavaScript API and the Geocoding API. The specific technologies used in the corresponding sections are as follows:

- Front-end:
 - HTML
 - CSS
 - Bootstrap Framework (5.0.2)
 - JavaScript
 - JQuery
 - Blade
- Back-end:
 - Laravel Framework (8.83.27)
 - PHP (7.4.27)
- Database:
 - MySQL
- APIs:
 - The Google Maps JavaScript API
 - Geocoding API

2.2 Database structure

The database, named *wind_farm*, was implemented with MySQL technology and consists of the following tables:

- users: Stores information about registered users.
- roles: Stores the role assigned for each user.
- role_user: Associates and assigns existing roles to users.
- markers: Stores the markers (wind turbines) that exist on the map.
- areas: Stores the area of the wind parks on the map and their information.
- forum_categories: Automatically created forums when new wind parks are designed.
- forum_threads: Stores the threads that are created in each forum.
- forum_posts: Stores the posts that have been made in each thread.
- favorite_forums: Stores the forums marked as favorite by each user.

2.3 User roles and permissions

To ensure effective management and user experience, the platform needs to also adopt a strategic approach based on incorporating three distinct user roles: *member*, *creator*, and *admin* (Figure 2). This approach helps maintain a balanced control mechanism, fosters collaboration, and optimise the overall user experience. Each role serves a specific purpose as discussed below, ranging from active engagement by members to content curation and administrative oversight.

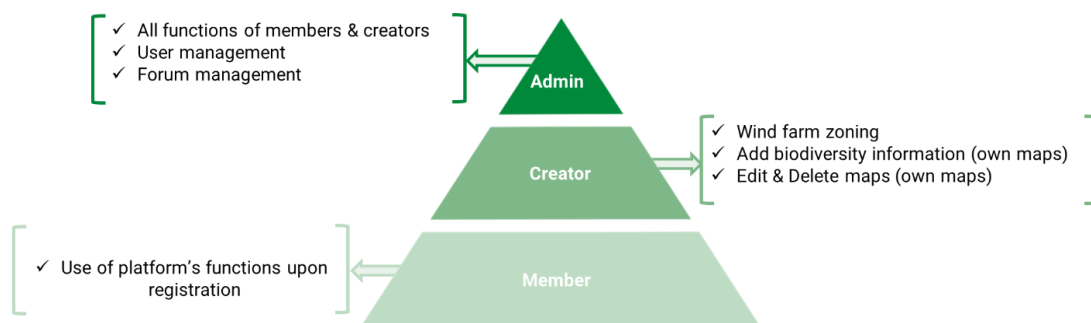


Figure 2. Wind4Bio online platform user types and their permissions

The permissions per role are given below:

- *member*:
 - Access: View wind farm maps and biodiversity information.
 - Engagement: Participate in discussion forums.
 - Privileges: Create and contribute to threads within existing forums..
- *creator*:
 - Access: View wind farm maps and biodiversity information.
 - Engagement: Participate in discussion forums.
 - Mapping control: Demarcate wind farms and pin wind turbines on map(s).
 - Content Management: Edit and delete wind farms and related biodiversity information created by the respective user.
- *admin*:

- Access: View wind farm maps and biodiversity information.
- Engagement: participate in discussion forums.
- Forum oversight: open and manage threads within forums.
- Mapping control: Demarcate wind farms and pin wind turbines on map(s) created by the respective user and other users as well.
- Content control: Add, edit, and delete biodiversity information to parks created by any user.
- User management: Create, edit, and delete user accounts.

2.4 Platform functionality

The platform's functionality depends on the role of the logged-in user.

2.4.1 User registration and login

Once users visit the platform at <https://wind4bio-mechanism.upatras.gr>, they will be directed to the home page (Figure 3).

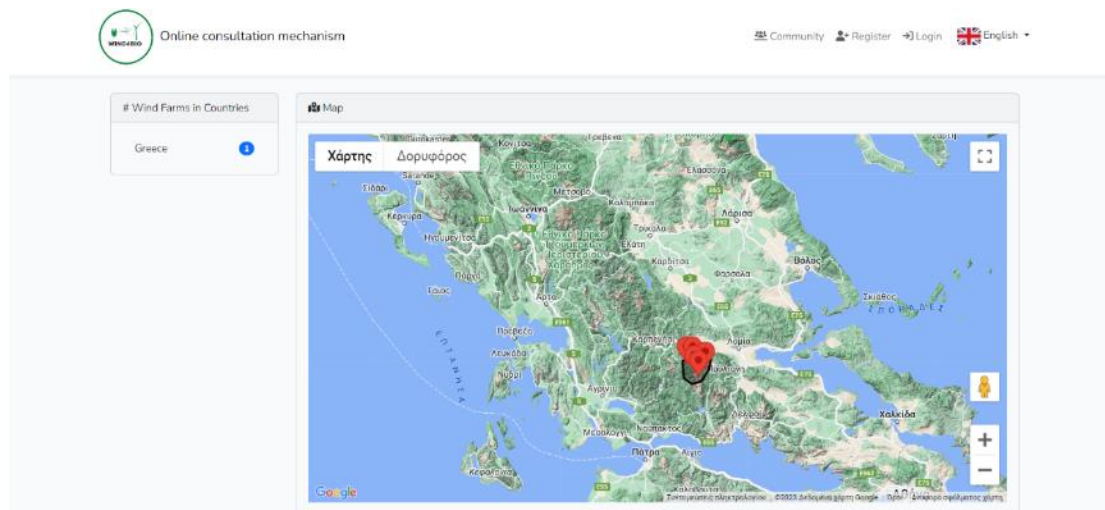


Figure 3. Home page for unauthenticated user

If users have not registered or logged in into the platform, they have limited capabilities, such as navigating (e.g., by clicking on '*community*' in the menu, they can be directed to the forums). If they wish to participate in the discussions, they must register and log in.

Registration in the system can be done from the menu by clicking '*register*', where the user is directed to the page depicted in Figure 4. For the registration, the user is required to fill in the following fields: Name, Email address, Password, and Password confirmation.

Figure 4. User registration page

For demonstration purposes, a Demo user has been created. Upon registering, the user is directed to the home page, with the difference that in the upper right side of the menu, it is now indicated that he/she is logged in (the selected username is indicated as shown in Figure 5).

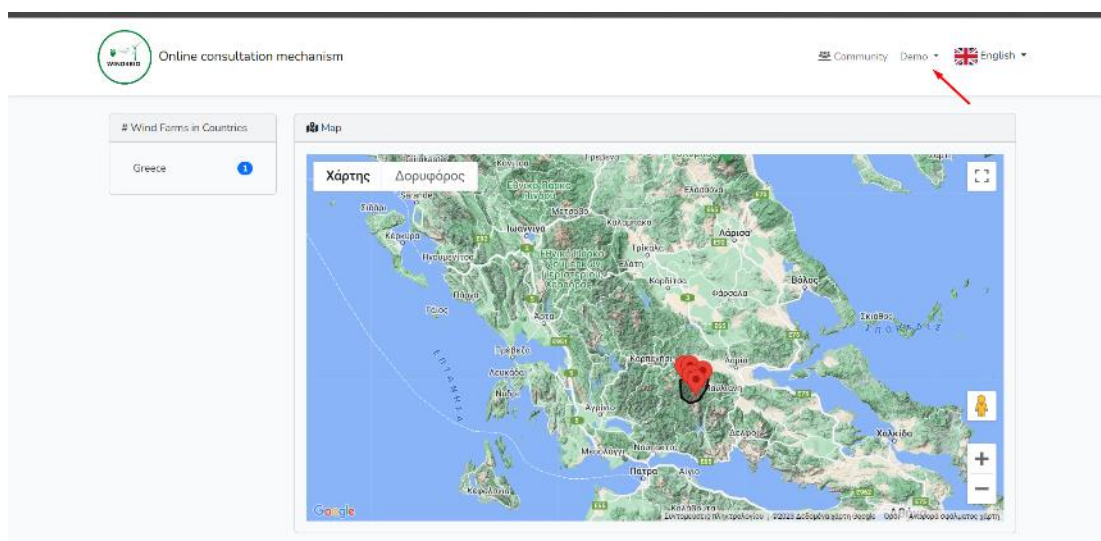


Figure 5. Home page for an authenticated user

By successfully completing the registration, the user has automatically assigned the *member* role and can participate in the community and view biodiversity information for each park by clicking on the corresponding wind park on the map. If the users have already registered and wants to log in, they can click on the *Login* button from the menu and be directed to the user login page (Figure 6), where they will be asked to fill in the email and password they provided during their registration.

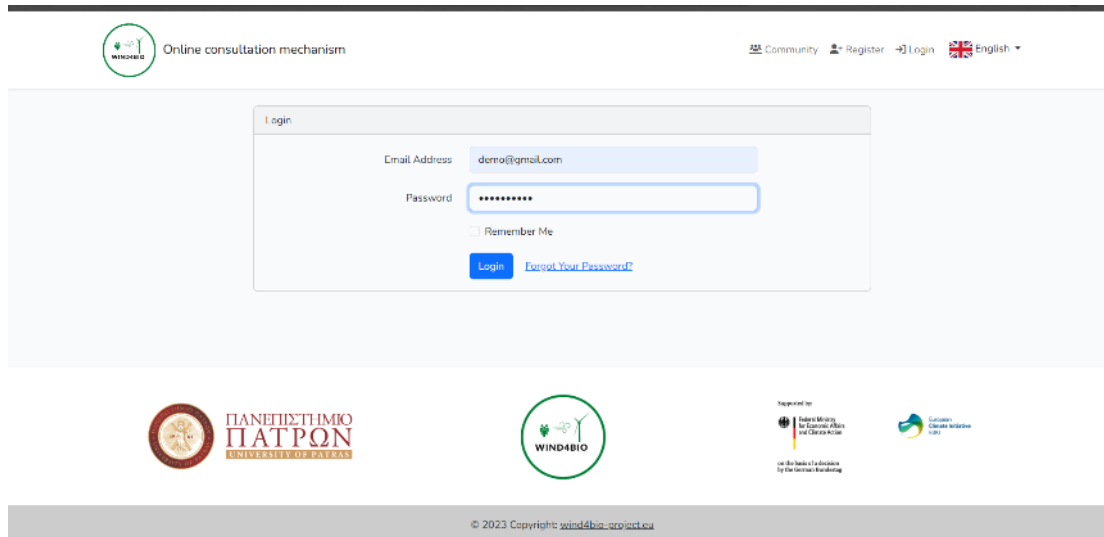


Figure 6. Login page

By clicking the *Login* button, the user will be directed back to the home page, and his/her username will appear at the top right of the menu. If the user wants to log out, he/she can click on the area where his/her username is displayed, which will reveal the logout button (Figure 7). By clicking this button, he/she will sign out of the system.

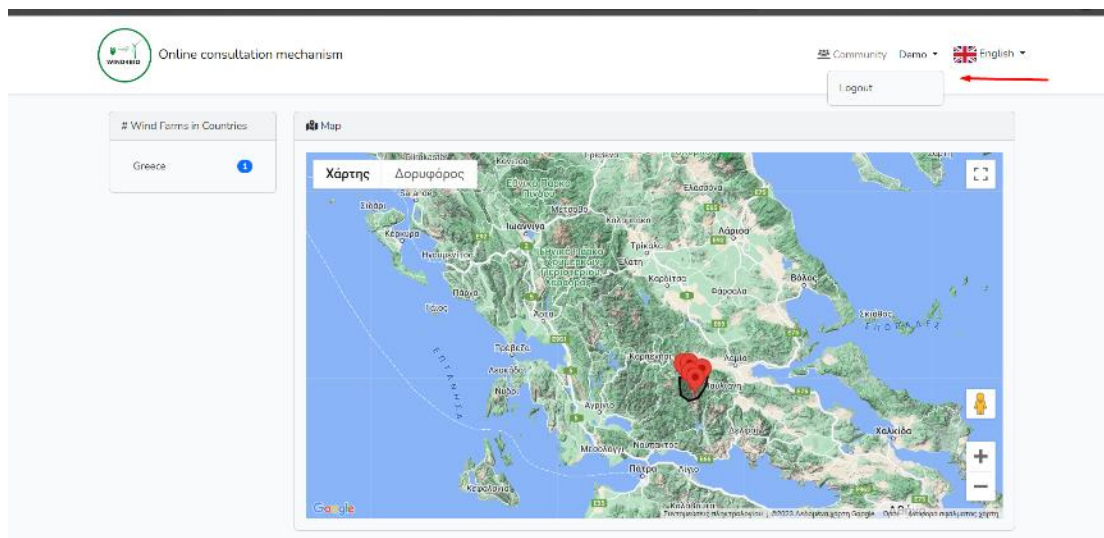


Figure 7. User sign out

2.4.2 Wind park and wind turbines insertion

For demonstration purposes, the role of the Demo user was changed to *creator* (the method of changing roles is presented in section 2.4.4) to showcase how Wind Park Design and Wind Turbine Insertion are performed. These functions are available only to users with the role of *creator* or *admin*. Once a *creator* logs into the platform, he/she can observe what is shown in Figure 8. Essentially, two additional buttons appear on the map, which are not available to users with the *member* role.

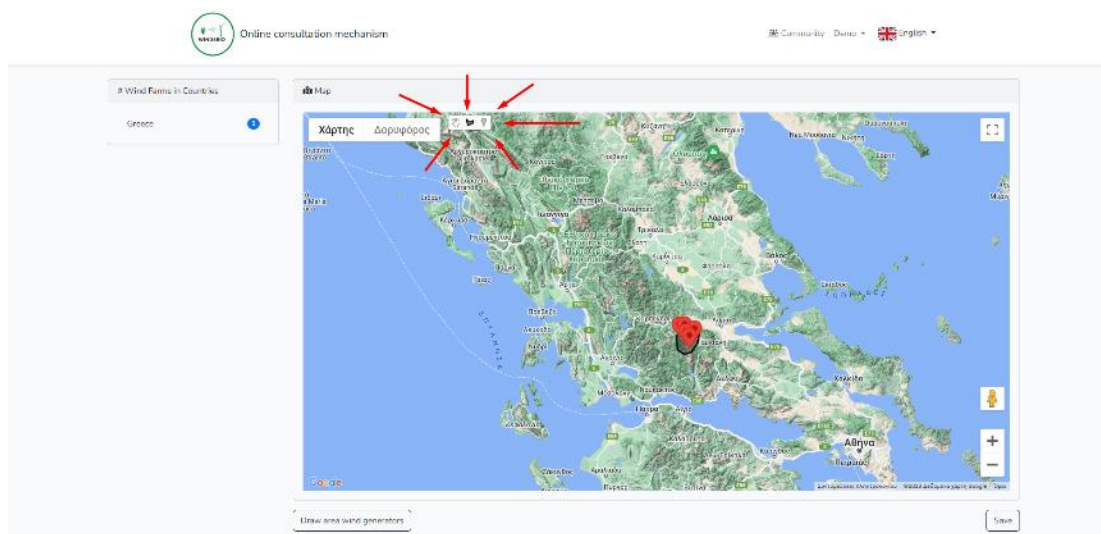


Figure 8. Creator home page

The first button is labeled "Draw area wind generators" (located just below the map in the left part in Figure 8) and initiates the process of designing a new wind park and inserting its wind turbines. By clicking it, a toolbar appears on the top of the map (Figure 9) that consists of three tools. The first tool on the left, presented as a hand icon, allows the user to move the map. When selecting the second tool, the polygon shape, and then clicking on a point on the map, the creator can start creating the boundaries of the park.

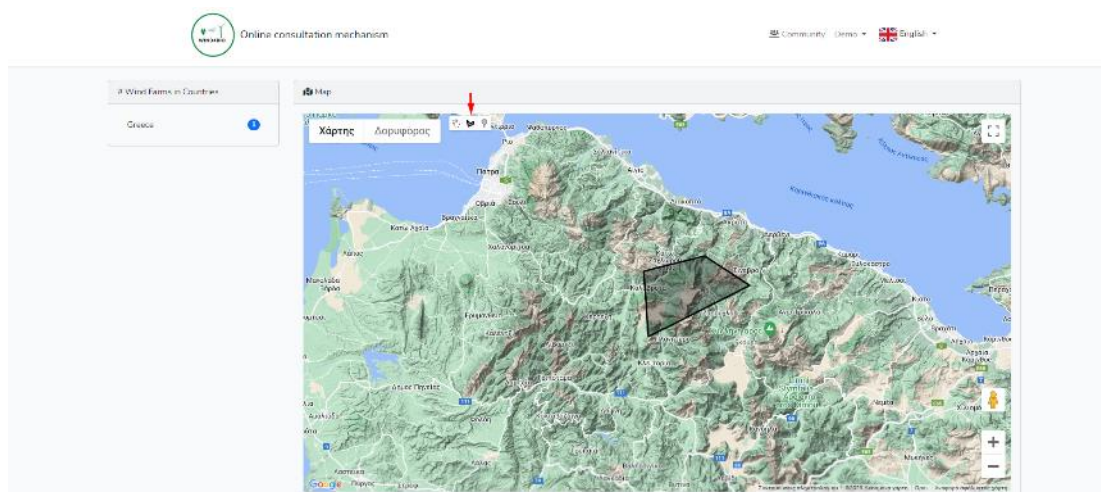


Figure 9. Tool for defining wind park boundaries

After the creator designs the boundaries of the wind park, he/she can select the third tool (presented as a marker - Figure 10), that allows the user to click on points within the designed park and insert the wind turbines (one click per turbine).

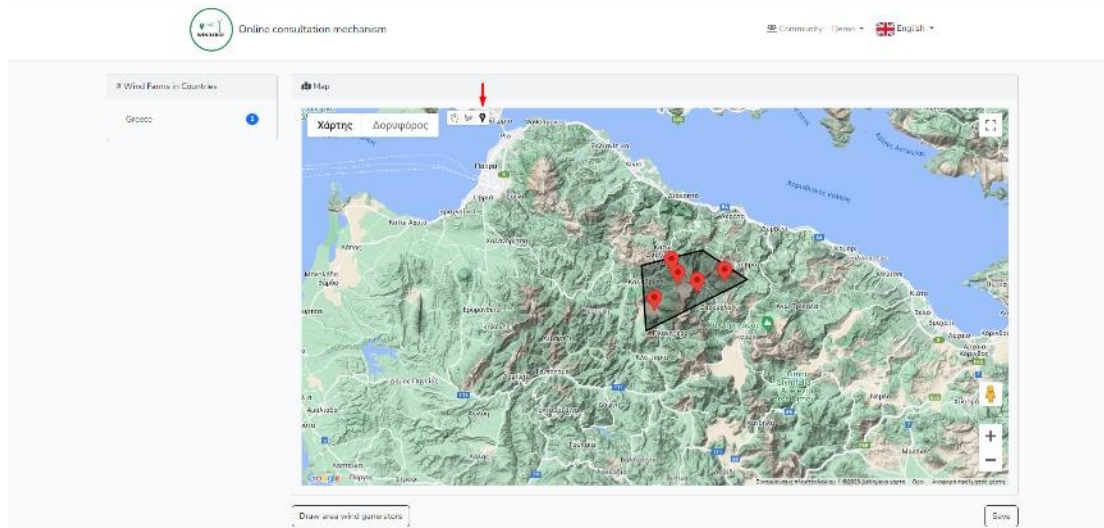


Figure 10. Tool for inserting wind turbines

Once the process is completed, the same steps can be repeated to create a new wind park and its turbines. After the creator has added all the parks, the *Save* button needs to be pressed in order to save the parks and make them available to all users¹.

After saving, the new park (or new parks) appears in the left column under the title '# Wind Farms in Countries' (Figure 11). The corresponding number increases for the country where the park is located (the system automatically identifies the country).

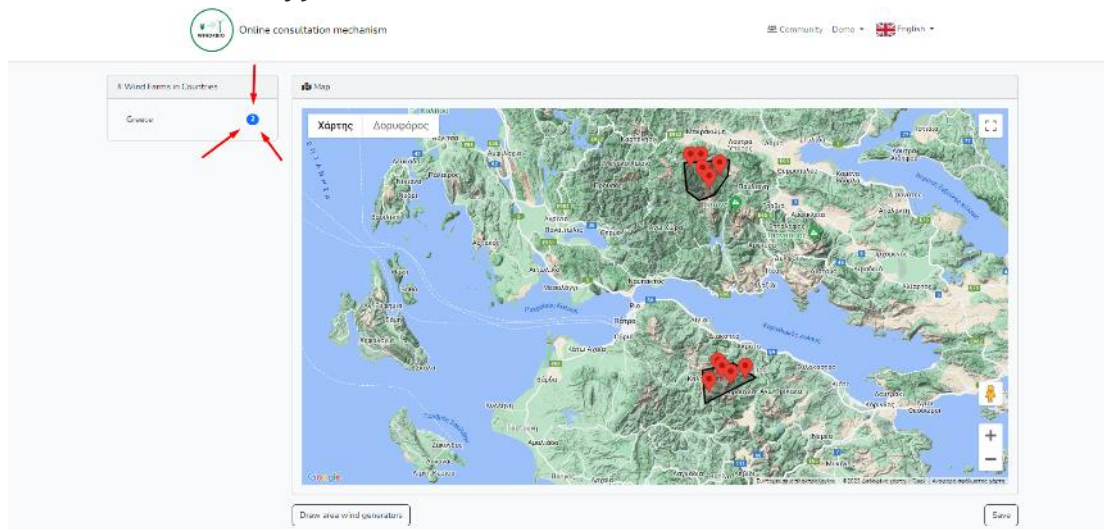


Figure 11. Number of wind parks per country

If a park is designed in a country not included in the '# Wind Farms in Countries' list, that country will automatically appear in the list along with the number of parks it has, following the format shown in Figure 11.

¹ The designed wind parks are automatically assigned a name indicating the location of the park and a unique identifier.

2.4.3 Biodiversity information management

Users with the role of *creator* and *admin* can upload files with biodiversity information, by filling in the form shown in Figure 12. To do so, they first have to select on the map, the park they are interested in².

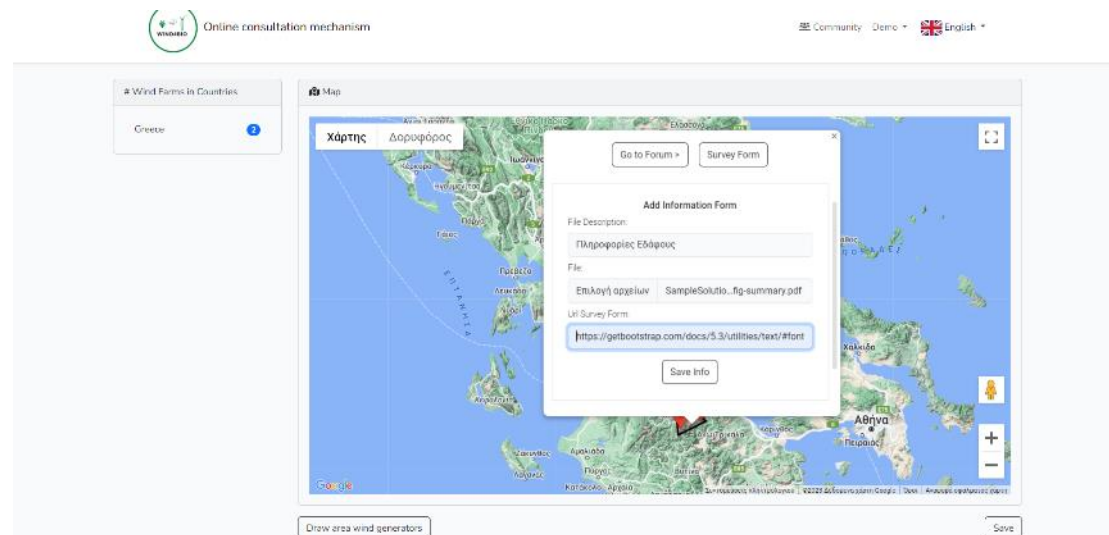


Figure 12. File upload form

Once the user clicks on the park, a pop-up window appears (Figure 12) having as title the name and the identifier of the park. Then, the form prompts them to enter a description of the file and locate the file they plan to upload³. Once the form is completed, and after pressing the "Save info" button, the information is displayed in a table format in the pop-up window of the park (Figure 13), indicating the successful storage of the information.

² A *creator* can upload files only to the parks they have created themselves (and not those created by other *creators*), while an *admin* can upload files to all parks.

³ The same form allows the user to insert a link to external surveys (e.g., links to external Google Forms).

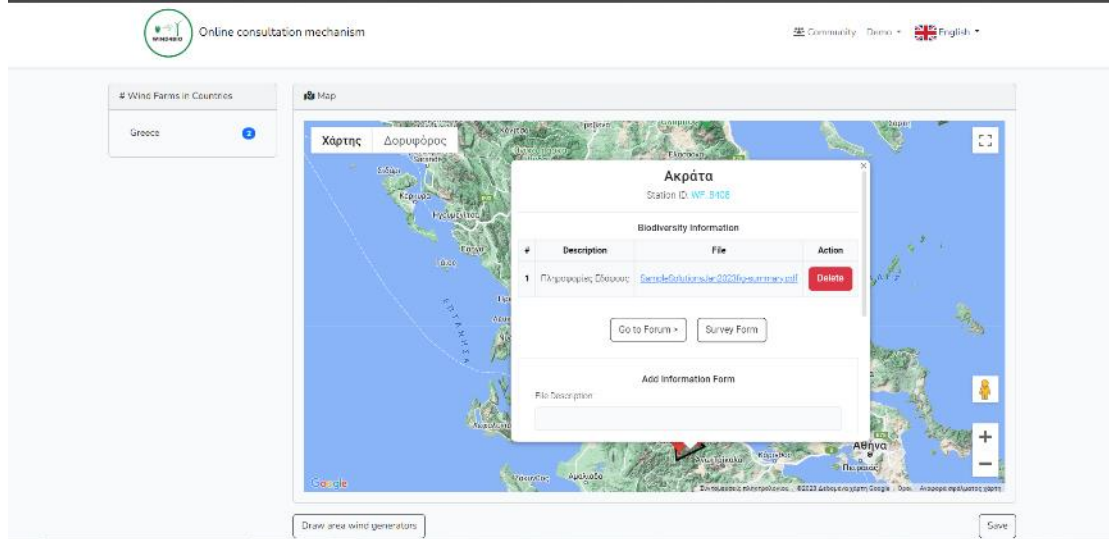


Figure 13. Saved park information

As Figure 13 shows, there are two buttons below the table. The "Go to Forum" button leads the user to the forum of the specific wind park, and the "Survey form" button directs them to an external questionnaire/form for the park (e.g., a Google Form questionnaire for the park).

Apart from the file upload process, there is also the option to delete files (Figure 14), parks (Figure 15), and wind turbines (Figure 16).

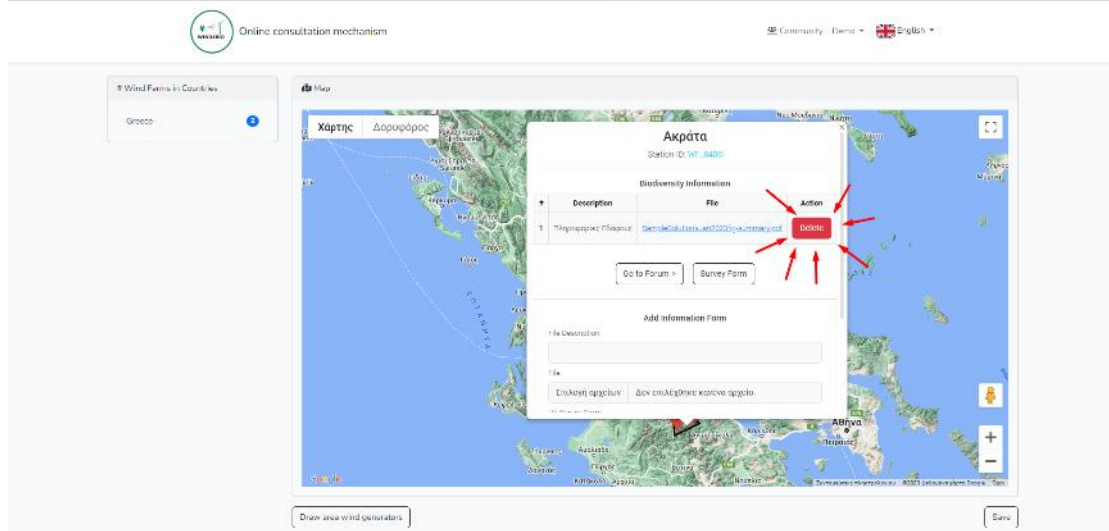


Figure 14. File deletion

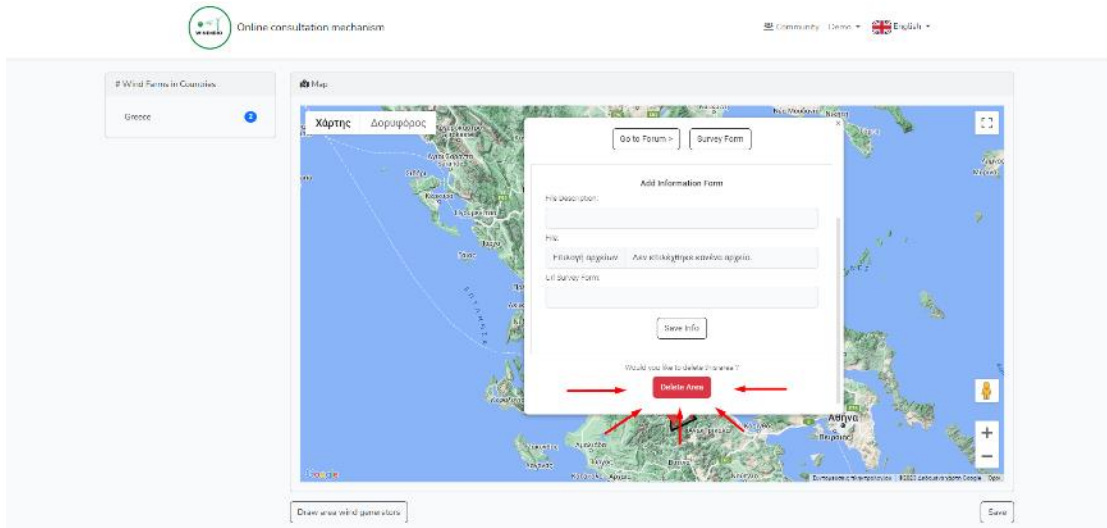


Figure 15. Park deletion

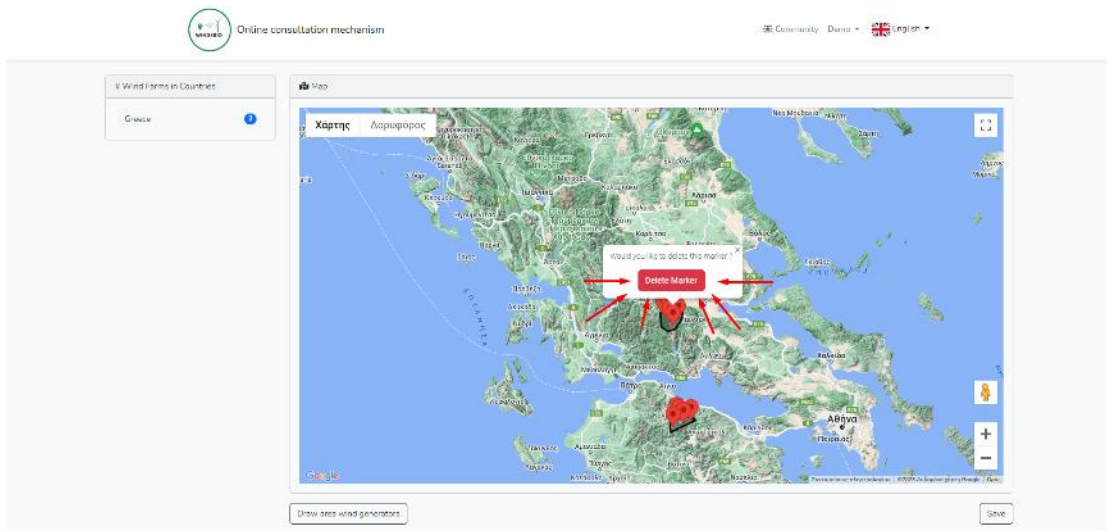


Figure 16. Turbine deletion

Users with the *member* role do not have the ability to use the above functionalities but can only view the information already added, as shown in Figure 17.

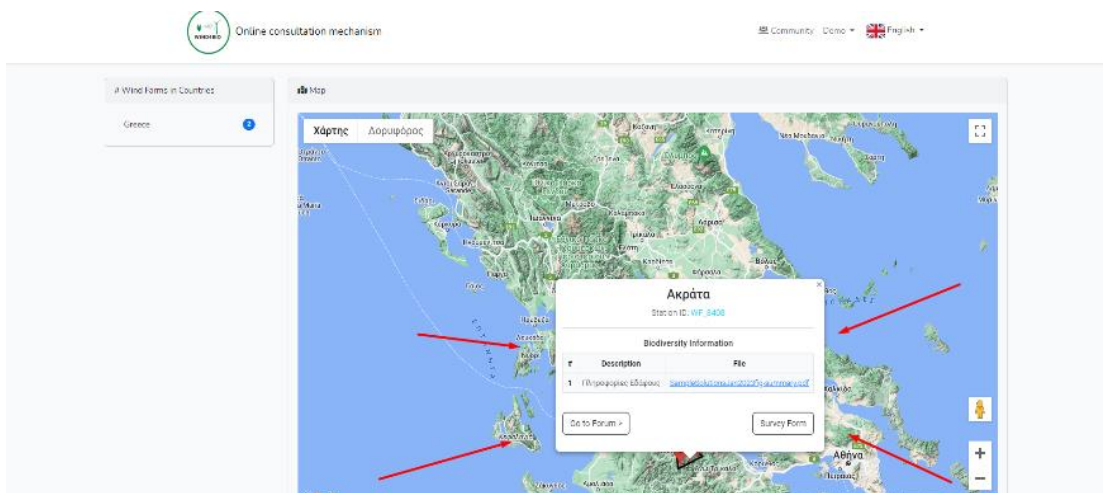


Figure 17. Information displayed for users with the *member* role

2.4.4 System user management

The menu of users logged into the platform as *admins*, has an additional option titled "*Manage Users*" as depicted in Figure 18.

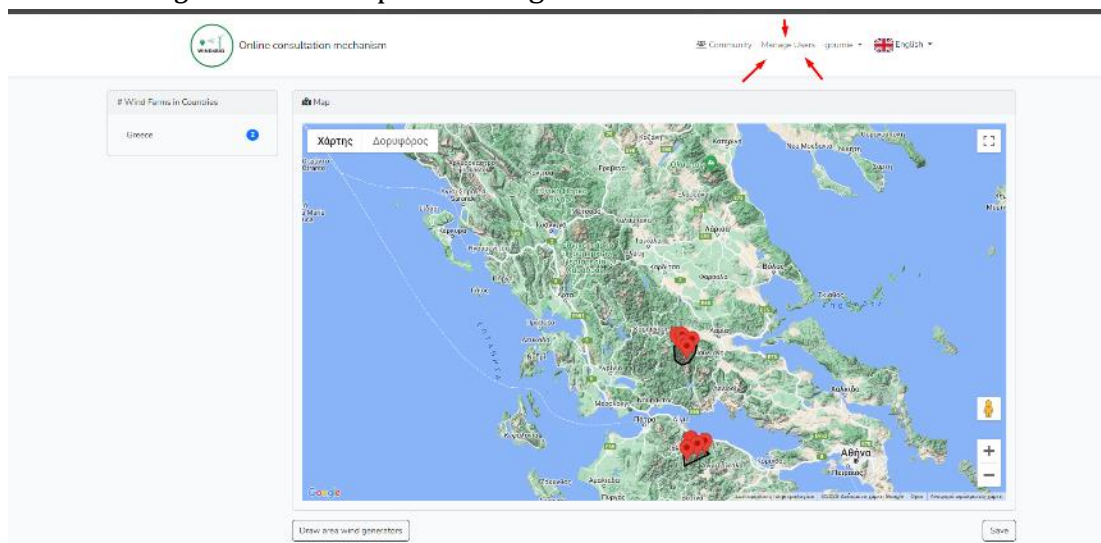


Figure 18. "Manage Users" option for users with the role of *admin*

Once the *admin* clicks this specific button, the system directs them to the user management page of the application (Figure 19). In this way, the administrators can have full control over the users of the platform.

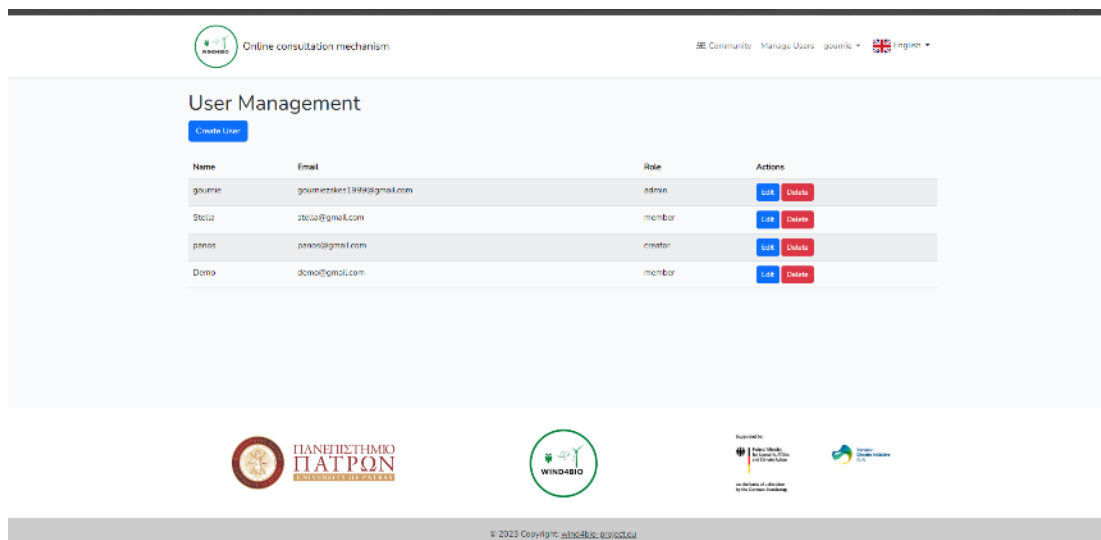


Figure 19. User management page

The user management option includes the following four functions:

1) Presentation of user details: The information of each user (name, email, role) is displayed in a table format as shown in Figure 19. The last column of the table allows the *admin* to edit the user's details or delete the user.

2) Creation of a user: By clicking the "*Create User*" button from the user management page, the *admin* is directed to the page shown in Figure 20, where the *admin* can manually register new users and assign a specific role to them. The

new user will be added in the table (see Figure 21), indicating that the insertion has been successfully completed.

Online consultation mechanism

Community Manage Users gourme English

Create User

Name: testUser

Email: testUser@gmail.com

Password: *****

Role: **testUser**

admin
testUser
creator
member

ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ
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Figure 20. User creation

Online consultation mechanism

Community Manage Users gourme English

User Management

Create User

Name	Email	Role	Actions
gourme	gourme@patras1999@gmail.com	admin	Edit Delete
Stalla	stalla@gmail.com	member	Edit Delete
panos	panos@gmail.com	creator	Edit Delete
Demo	demo@gmail.com	member	Edit Delete
testUser	testUser@gmail.com	member	Edit Delete

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Figure 21. Updated user table (with the new user)

3) Editing user details: From the User Management page, the *admin* can edit registered users by clicking the "Edit" button of the user they wish to modify. Then, from the form that appears, they fill in the field they wish to change (for example, in Figure 22, changing the role of the user testUser) and by pressing the "Update" button, the user's details are updated (Figure 23).

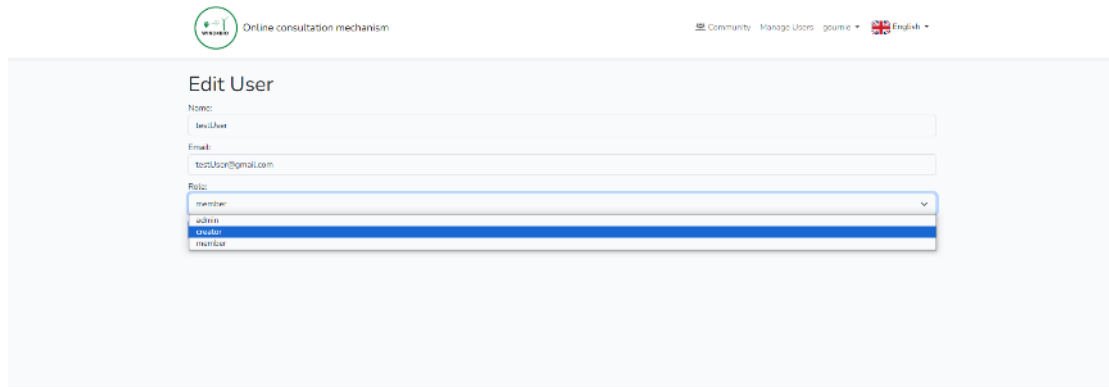


Figure 22. User editing

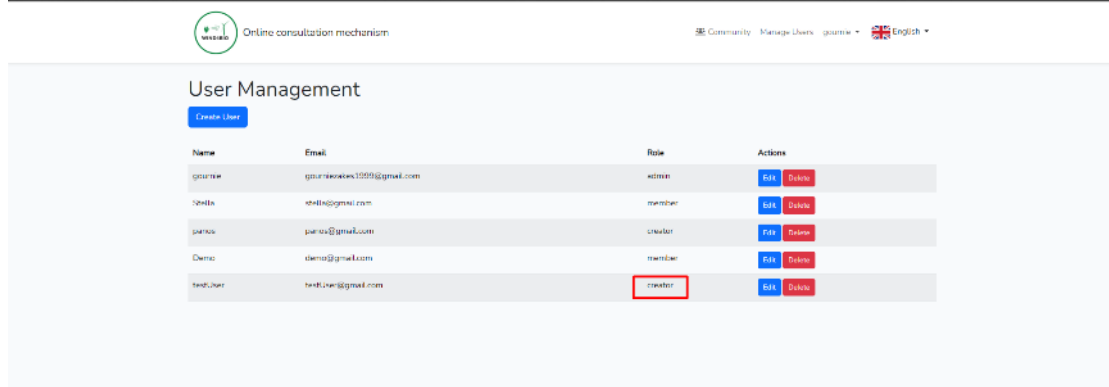


Figure 23. Updated user table (with the new details)

4) Deletion of a user: Similarly, the *admin* can delete a registered user by clicking the "Delete" button for the respective user (Figure 24).

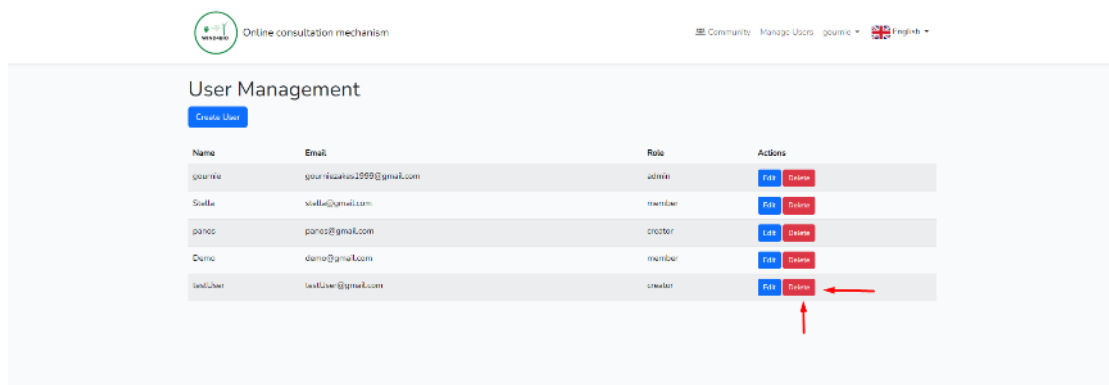


Figure 24. User deletion

2.4.5 Communication forum

The Communication Forum provided by the platform allows users to participate in discussions. It follows a structured conceptual hierarchy with the following definitions:

Discussion Forum: Discussion Forum refers to the initiation of a forum for each wind park. Forums are automatically created once a user with the role of *creator* or *admin* inserts a wind park. Forums are titled with the identifier of the park and described by the area on the map where the park is located, distinguishing them from other parks. *Admins* can create additional forums for more general discussions, that is, discussions not connected to any particular park. Such forums could, for example, include discussions about the platform's operation.

Threads: For each forum, registered users (of all roles) have the ability to open a thread, which is a topic for discussion. The community can participate in each topic that is opened, initiating dialogue. Essentially, in each forum, many threads can be created for discussion by all users.

From the Home Page, the user (regardless of their role) can click on the "Community" option of the menu to navigate to the discussion forums list (Figure 25). There, the user can select their favorite forums, which will then appear first on the list.

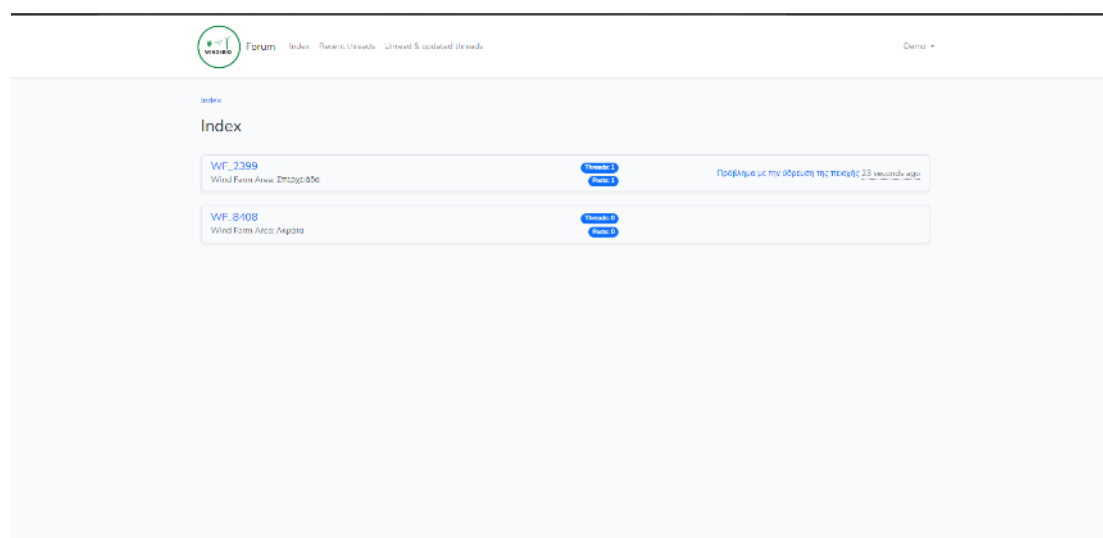


Figure 25. Discussion forum list

In this list, the user can also be informed about the number of threads that have been initiated in each forum, as well as the total posts made by all users participating in each discussion forum.

2.4.5.1 Forum creation

As mentioned above, the user with the role *admin* can create new discussion forums. By clicking the "Create forum" button in the list of forums (Figure 26), a window appears prompting the *admin* to fill in the fields presented in Figure 27.

As mentioned previously, this capability is provided to the *admin* to create more general discussion forums that are not connected to any park, for example, regarding the operation of the platform.

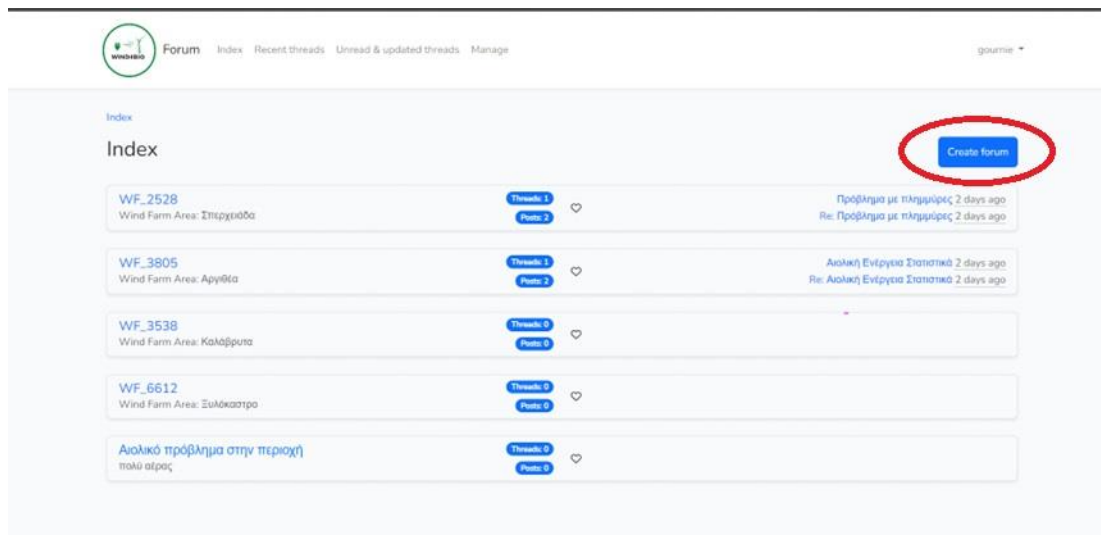


Figure 26. Forum creation button

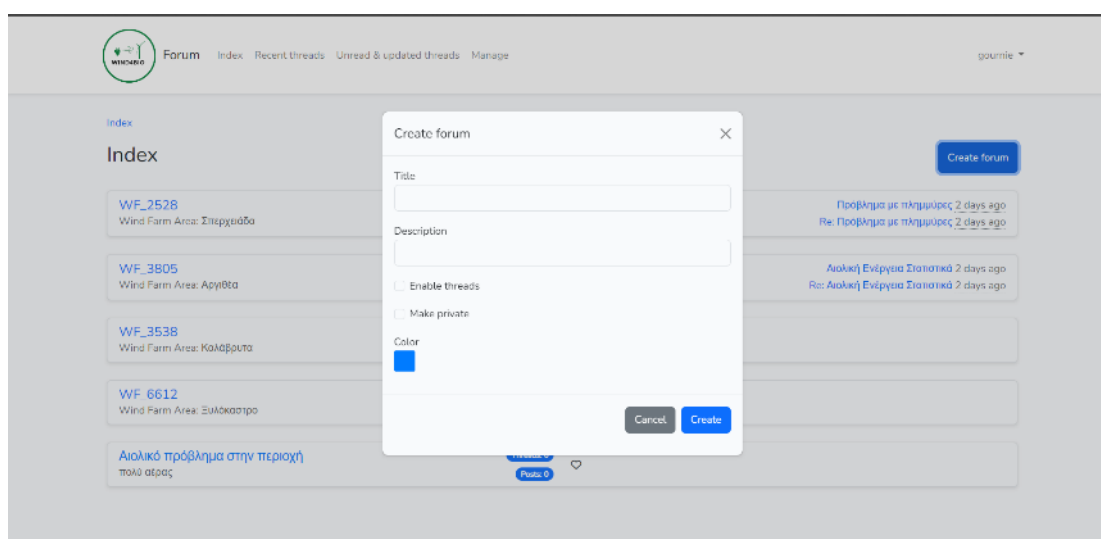


Figure 27. Forum creation form

2.4.5.2 Thread creation

When the user selects from the list the discussion forum that he/she wants to participate, the system redirects him/her to a new list, which presents the threads that have been opened in the specific forum (Figure 28).

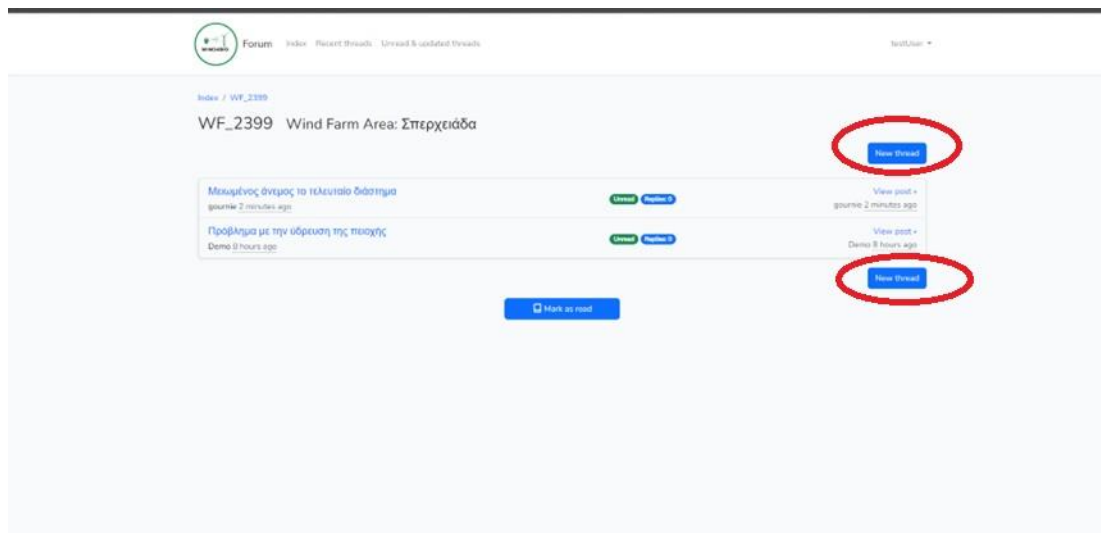


Figure 28. Forum thread list

From this page, the user has the ability to create a new thread by clicking the "New thread" button (Figure 28). By filling out the form shown in Figure 29 and after clicking *Create*, the thread is published and becomes available to all users.

Furthermore, the user can select a thread and reply to a comment/question or participate in the thread by making his/her own comment. This functionality is shown in Figure 30.

It should be noted that the user who created the thread has the ability to edit or delete it, essentially acting as the moderator of the discussion (similarly, an *admin* can delete any thread they wish).

The forum menu also includes a "Recent threads" link which displays an updated list of the most recently created threads. Finally, the "unread & updated threads" link shows the unread threads for the logged-in user.

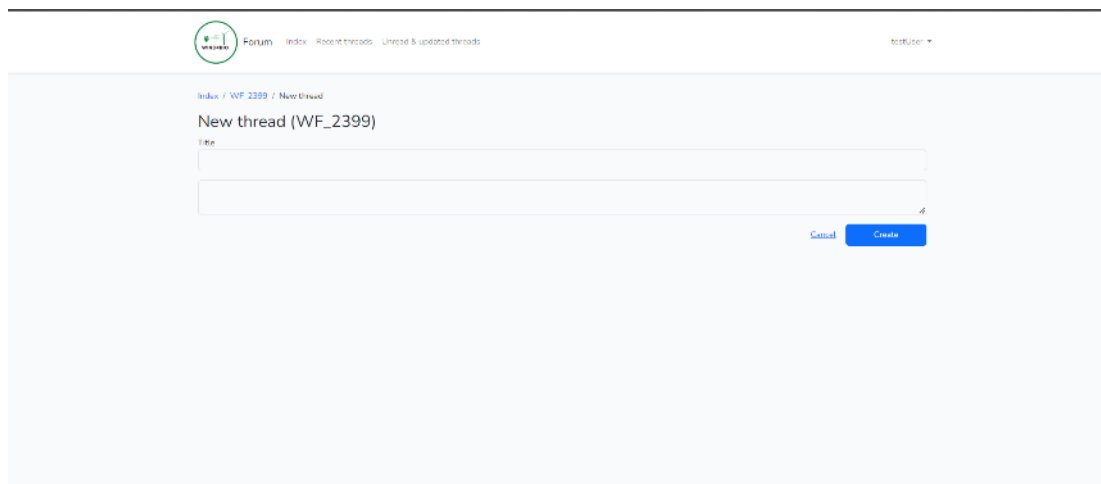


Figure 29. Thread creation form

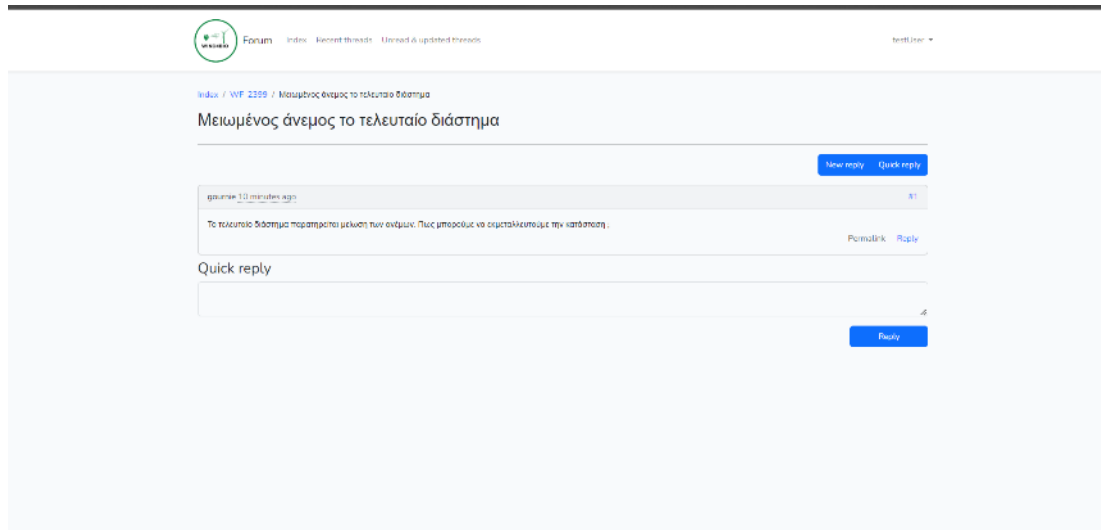


Figure 30. Reply to a thread comment

2.4.5.3 Communication management

Users with the role *admin* have additional communication management rights, which are available after clicking the option "*Manage*" in the menu (Figure 31).

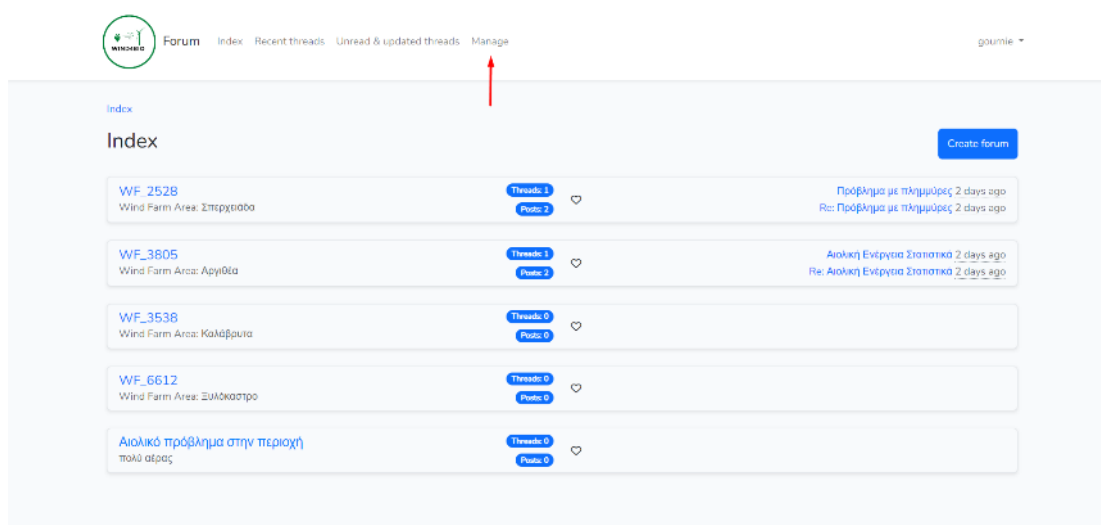


Figure 31. Forum management button

Upon selecting this option, the *admin* is directed to a table listing the discussion forums. From there, they can manage (create, edit, delete⁴) the forums (Figure 30).

⁴ *Admins* can only delete forums that are not associated with a wind park. Forums related to wind parks cannot be deleted via system management, but only if the wind park area is deleted from the map.

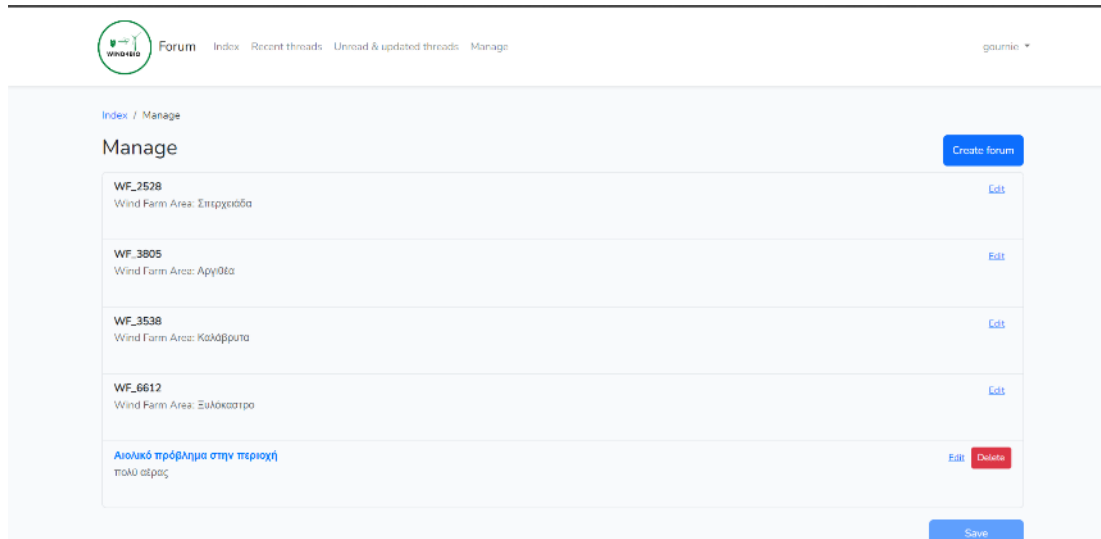


Figure 32. Forum management page

The management page allows *admins* to create new forums after clicking the "Create Forum" button and after completing the form shown in Figure 33.

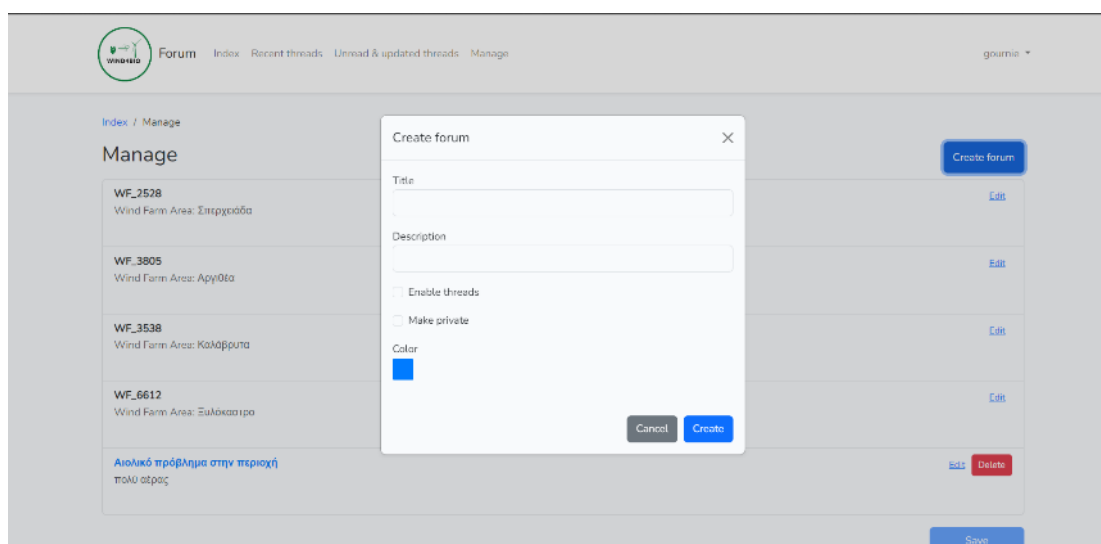


Figure 33. Forum creation

Similarly, with the "Edit" button, *admins* can edit a specific forum (Figure 34), including the ability to delete specific threads (Figure 35) or posts (Figure 36).

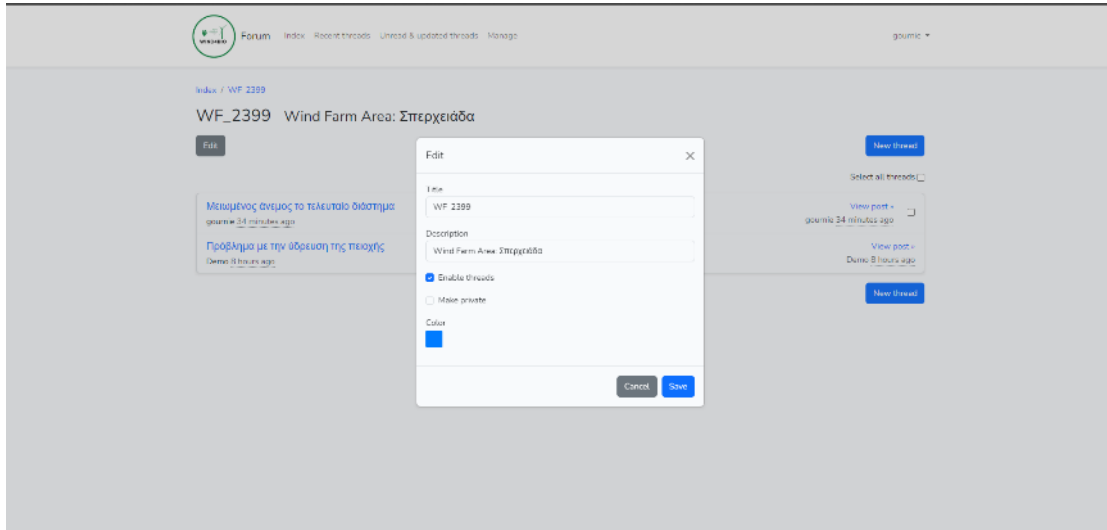


Figure 34. Forum editing

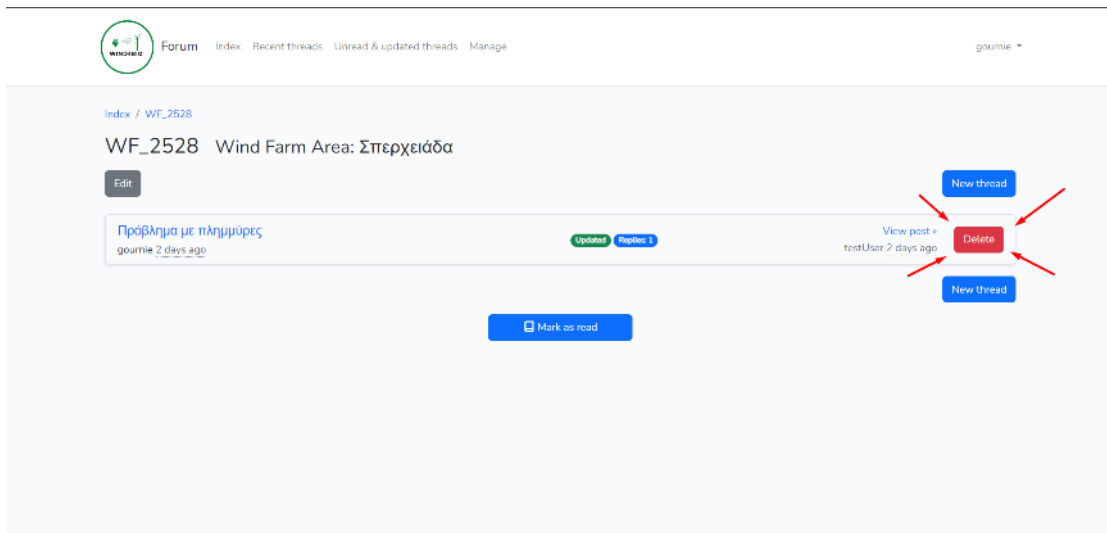


Figure 35. Thread deletion

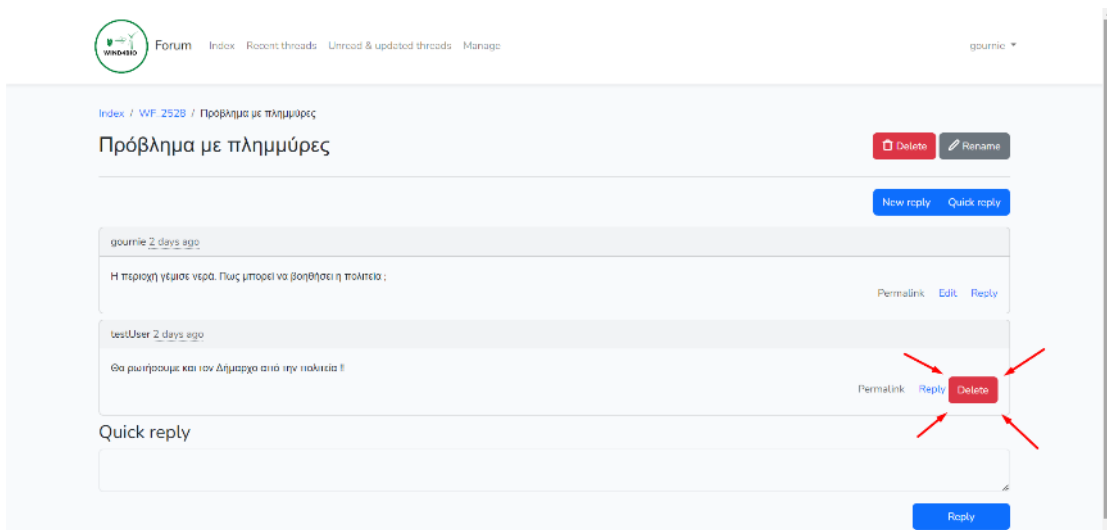


Figure 36. Post deletion

2.4.5.4 Favorite forum

Another additional feature for all logged in users is the ability to select their favorite forums. This allows users to prioritize the forums and place their favorites first in the list of forums. To do so, the user should navigate to the list of forums and press on the heart icon next to the forum they want to mark as favorite. Favorite forums are indicated by a solid black heart and on the page refresh, they appear first in the list.

Figure 37 and Figure 38 show an example of how the forum list changes when a specific forum (WF_6612) is marked as favorite. If the users wish to remove this preference, they can click on the heart button again and the list will be revised, putting the forum back to its previous position.

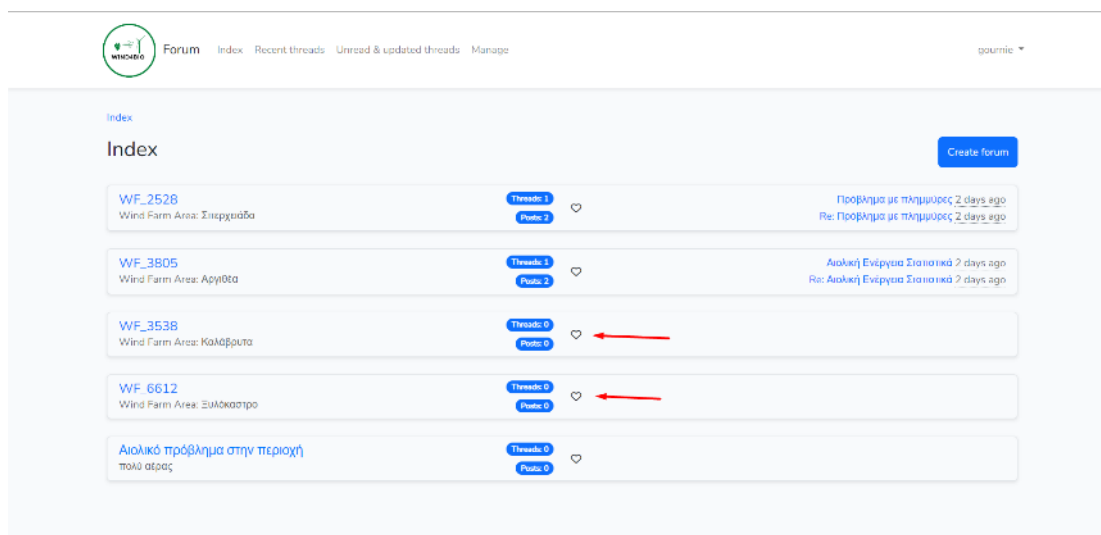


Figure 37. List of forums without favorite forums selection

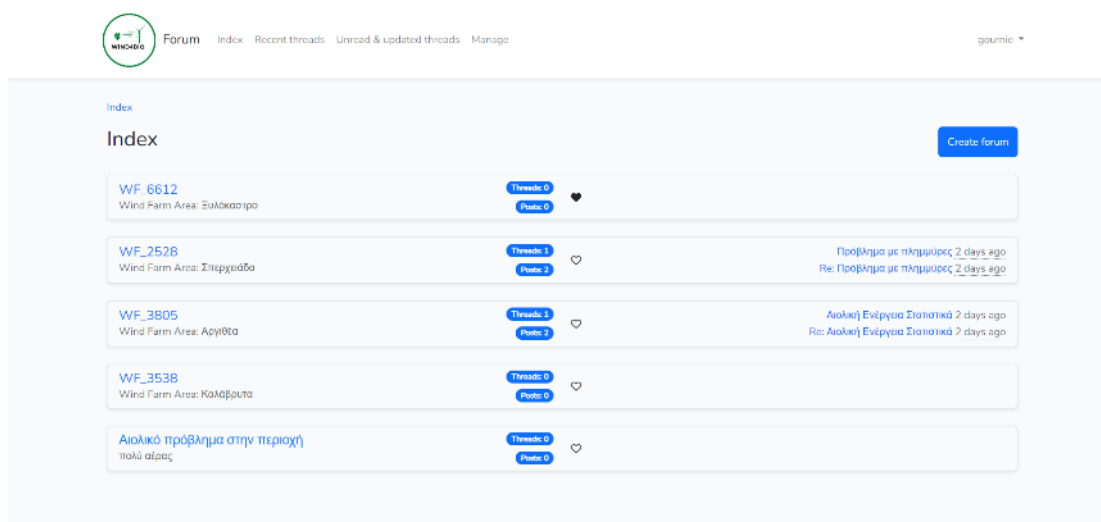


Figure 38. The forum selected as favorite is placed first in the list

3 Procedure for platform assessment

Following the description of the consultation mechanism, **Green Liberty and WiseEuropa tested the mechanism and provided feedback** after assessing its usability and functionality⁵. The testing objectives were set as follows:

- Explore if end-users (of all roles) are able to use the mechanism successfully without any malfunctions.
- Identify problems in a real scenario context.
- Evaluate users' experience and provide recommendations regarding possible improvements.

Testing consisted of two distinct phases; a) registering and using the [Wind4Bio consultation mechanism](#), and b) assessing the usability and functionality of the consultation mechanism and completing the assessment form at [Wind4Bio-Evaluation form Questionnaire](#) (also available in Annex A).

3.1 Timeline, Targets, KPIs

The initial deadline for Wind4Bio partners to assess the consultation mechanism and fill-in the assessment forms was set till the end of April 2024. A one-month extension was added after partners' request and the assessment ended at May 2024.

Table 1 includes the key performance indicators (KPIs) that were set to guide feedback collection on the usability and technical performance of the mechanism and evaluate the level of achievement of its initial purpose. The table also shows the number of submitted questionnaires by each partner.

Table 1. Number of submitted assessment forms by each partner

Partner	Target KPI	Submitted forms
Green Liberty	<p><u>Baseline:</u> 2 team members (with <i>member</i>, <i>creator</i> and <i>admin</i> roles)</p> <p><u>Preferred:</u> 2 team members (with <i>member</i>, <i>creator</i> and <i>admin</i> roles) and 2 stakeholders (<i>member</i> or <i>creator</i> roles)</p>	2 team members
WiseEuropa		2 team members
PROMEA (optionally)		1 team members
UPAT (optionally)		4 team members

⁵ PROMEA and UPAT optionally assessed the consultation mechanism

4 Testing results and suggestions for improvement

All consortium partners contributed to the mechanism assessment, demonstrating a high level of commitment and reaching the collection targets set. A total of 9 questionnaires' responses were submitted, providing constructive comments for the mechanism optimization. This section includes a detailed presentation of the responses gathered, including an analysis of the suggestions provided.

4.1 Overall findings

Out of the 9 responses⁶, 2 were submitted by WiseEuropa, 2 by Green Liberty, 1 by PROMEA and 4 by UPAT. Figure 39 demonstrates the responses' percentage by each project partner.

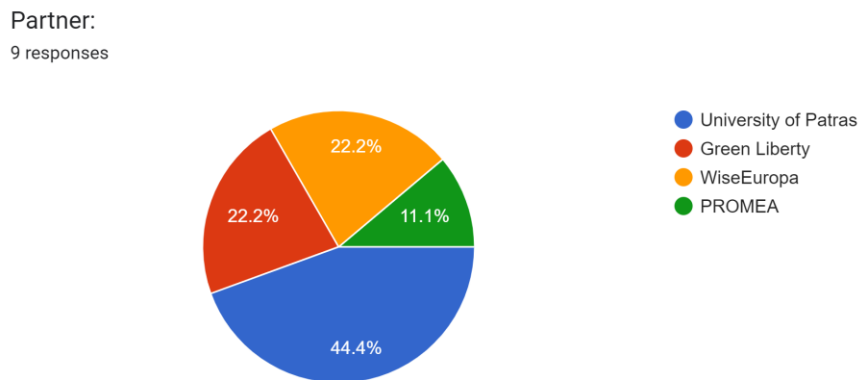


Figure 39. Responses' percentage by partner

4.2 Relevance assessment results

Figure 40 and Table 2 present the results of the first section of the assessment. The specific question concerned the relevance of the platform and users were asked to assess its functionality for each of the three roles.

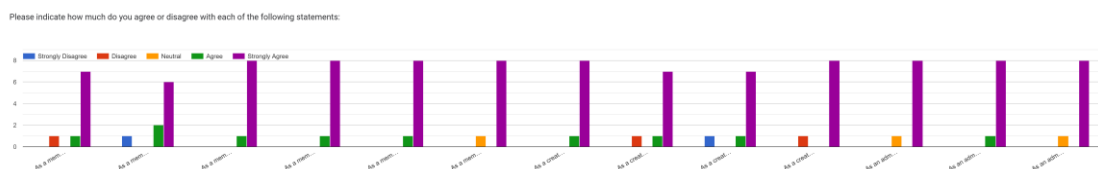


Figure 40. Relevance assessment results

⁶ All responses were made by project partners, while no stakeholder evaluated the consultation mechanism.

Table 2. Relevance assessment results

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
As a <i>member</i> , through the map I could have an overview of wind farm projects throughout my country		1		1	7
As a <i>member</i> , through the map I could check the biodiversity related files uploaded to wind farms	1			2	6
As a <i>member</i> , I could create new threads				1	8
As a <i>member</i> , I could make posts or reply to posts made by other users				1	8
As a <i>member</i> , I could delete my threads and posts				1	8
As a <i>member</i> , I could select my favorite forums			1		8
As a <i>creator</i> , I had all the functionalities of the <i>member</i>				1	8
As a <i>creator</i> , I could design wind parks & add markers (wind turbines) on the map		1		1	7
As a <i>creator</i> , I could add biodiversity information (files, survey forms, file descriptions) to the parks created by me	1			1	7
As a <i>creator</i> , I could delete the content and area that I created		1			8
As an <i>admin</i> , I had all the functionalities of the <i>creator</i>			1		8
As an <i>admin</i> , I could manage (edit, delete, create) the users of the platform				1	8
As an <i>admin</i> , I could manage (edit, delete, create) forums, threads and posts			1		8

Overall, as Table 2 presents, most respondents strongly agree (or agree) that the content of the platform is relevant with the goals of the Wind4Bio project and allows users (irrespectively of their role) to perform the actions according to the initial design. Only few responses were deviated from the majority of answers. Since the mechanism will be further used in the framework of activity A II.4, these responses were noted and will be considered in case the specific functionalities (such as “adding biodiversity information” for the *creator*) is not working properly.

4.3 Design and functionality assessment results

Project partners were asked to convey their agreement or disagreement by answering to the following nine (9) statements that concern the platforms' design and functionality:

- The overall visual design of the platform is appealing
- The interface is attractive
- The interface is practical
- The mechanism includes controls that make it easy to use and navigate
- Registration to the platform is quick and easy
- The platform is loading and refreshing fast
- Access through mobile devices is easy and convenient
- The number of "clicking" to find the right page is low
- The platform has all the functions and capabilities a user expects it to have

The summarized data results are presented in Figure 41.

Please indicate how much do you agree or disagree with each of the following statements:

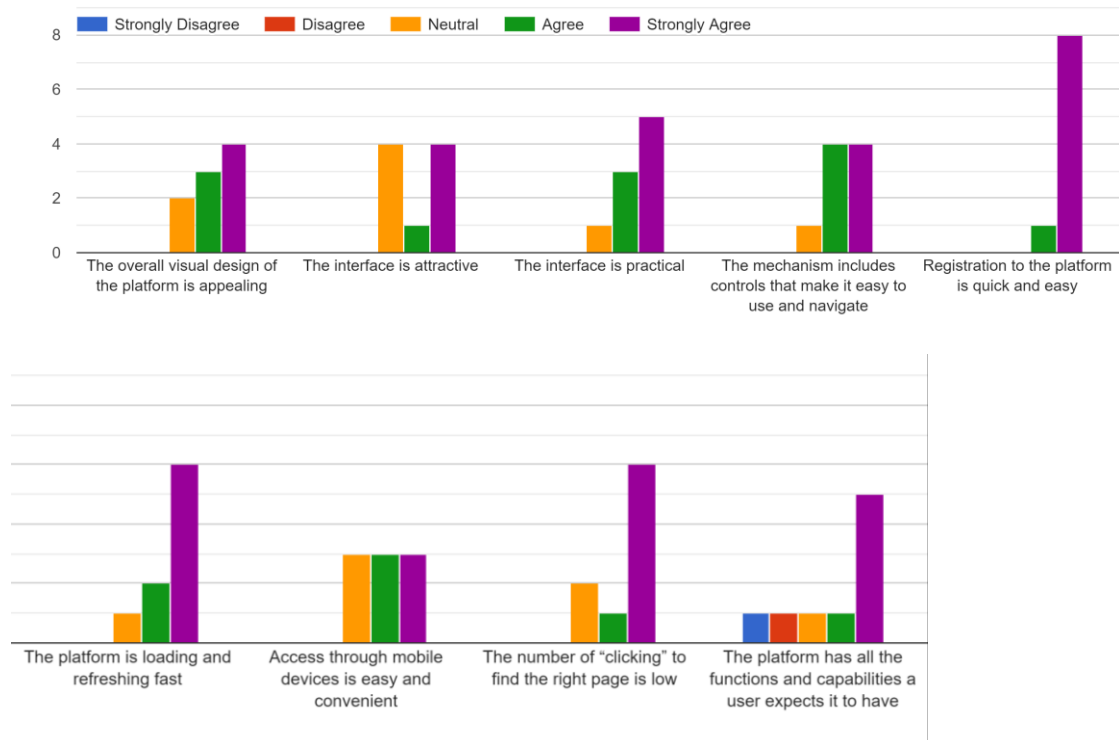


Figure 41. Design and functionality assessment results

One of the most critical components for the success of an online application is its design. An application should be designed in an attractive, aesthetical manner, to be successful. This entails features for capturing users' attention, retaining it and creating of positive experience. The partners' overall experience with the mechanism in terms of interface design is considered positive. The overall visual design, the interface attractiveness, the practicality of the application, as well as the components supporting the users to navigate easily, were evaluated positively by the majority of respondents.

Some respondents showed neutral opinion about the overall design, the interface and the features that navigate the users while feeding information in the mechanism. In this regard, UPAT examined the reasons behind these results by reviewing the respondents' answers to the open-ended questions. An analysis of these responses will follow in Section **Σφάλμα! Το αρχείο προέλευσης της αναφοράς δεν βρέθηκε..**

The functionality of the online tool was also assessed positively by the respondents. Partners were asked to evaluate the complexity of accessing the tool, namely if the initial registration was easy and not time consuming. The majority of respondents were very satisfied. The lack of slow-downs in the loading process of the application that could cause frustration is also highly appreciated – 67% of respondents were very content with the speed of loading and the number of clicking to find the right page. Finally, most respondents agreed that the platform provides adequate access through mobile devices. For such devices, we have to mention that functionalities are limited for the *creator* and *admin* roles, which led two respondents to disagree with the final statement.

4.4 Responses to open-ended questions

The final section presents the responses to the open-ended questions. For each question, a table is included that shows the comment and the response from University of Patras on whether it will be incorporated in a future version of the platform or not.

4.4.1 What are the main weaknesses of the online platform?

No	Comment	UPAT response
1	No weaknesses spotted	-

2	-	-
3	-	-
4	-	-
5	<p>(a) I am not sure if areas on the map will be very accurate / Drawing was not so easy</p> <p>(b) I couldn't reset my password</p> <p>(c) I haven't received any e-mail confirmation while registering</p> <p>(d) I had problems with deleting areas I drew</p>	<p>(a) The tool is not supposed to accurately depict wind parks. Its main goal is to make civil society an integral part of wind energy planning and biodiversity preservation</p> <p>(b) To be considered for the updated version</p> <p>(c) To be considered for the updated version</p> <p>(d) More details are necessary because we have not experienced such problems</p>
6	<p>The drawing tool is at first not 100% intuitive. Changing from the "hand" tool to the drawing tool takes a bit getting used to, I did not always manage to draw the area at a first go. Also, the other way around, I sometimes continued "drawing" new areas when I did not intend to.</p>	<p>The usage of the mechanism, and especially the area drawing requires some testing to get familiarized</p>
7	-	-
8	<p>It is too unsophisticated. There are many things missing for it to be actually functional and useful for wind park developers, municipalities, or local communities.</p>	<p>Response to specific comments is included in Section 4.4.2</p>
9	<p>The design could be more 'fresh' and interesting to stimulate engagement. Maybe it would be useful to add automatically a structured thread with the most popular topics once a wind farm is added to the map (just an idea).</p>	<p>This functionality is somehow already given to users by selecting their "favorite" forums. Having in mind that users most probably will be interested in wind parks close to their locations, we preferred to give the possibility to mark the "favorite" instead of the "popular" forums</p>

4.4.2 What aspects of the online platform should be improved? Please give examples.

No	Comment	UPAT response
1	-	-
2	-	-
3	-	-
4	-	-
5	<p>There is option to change language but nothing happens – I guess language versions other than English will be completed later</p>	<p>The Grant Agreement does not mention support for multilingual platform. It is something that we have added</p>



		and indeed in future versions Latvian, Greek and Polish may be added for the platform main components, e.g. for the navigation buttons. Discussions in forums cannot be translated in all languages
6	Please see the boxes above and below.	Response to specific comments is included in Section 4.4.3
7	Better visualisation	More details and specific proposals are necessary
8	<p>These are some basics that need to be integrated for the platform to become at least a bit more useful.</p> <p>(a) From the perspective of a member, what needs to be improved:</p> <ul style="list-style-type: none"> - possibility to filter/sort forums by countries (as one huge list is very inconvenient to go through); - the main name for forums should not be automatic numbers, instead it should be the name of the wind park (which should be added by creators); - the page "index" should be called "all forums"; - possibility to click on a country to zoom in on it (now the list on left with countries and number of wind parks is not functional/unnecessary, if there is no option to click on the list). <p>(b) From the perspective of a creator, what needs to be improved:</p> <ul style="list-style-type: none"> - there needs to be a welcome and more information/instructions for creators; - after adding and saving, the location of turbines somehow adjusts itself (sort of in a regular grid - perhaps it's due to adding the turbines too close to each other?); - deleting one turbine deletes the whole row (as it has been automatically readjusted in a grid); - there is no possibility to rename a wind park, it just uses the name of nearest city/village; 	<p>(a)</p> <ul style="list-style-type: none"> - Nice suggestion, we will try to incorporate it in the updated version. Currently, the users are able to select their favorite forums. Also, the user may navigate to a specific forum through the map (i.e. without the need to go to the forums page) - Forums (and wind parks) are automatically given a number and also include information about the area. We will consider the suggestion. - We will incorporate the suggestion in the updated version - The number of farms per country is indeed just an indication, however most partners found it useful <p>(b)</p> <ul style="list-style-type: none"> - Creators will be provided with a guide on how to operate the platform. After this suggestion, we will include this guide on the creator menu - The tool is not supposed to accurately depict wind parks / turbines. Its main goal is to make civil society an integral part of wind energy planning and biodiversity preservation - More details are necessary because we have not experienced such problems - Forums (and wind parks) are automatically given a number

	<ul style="list-style-type: none"> - it should be possible to add turbines to wind parks, not to save them separately; - possibility to number the turbines would be useful, to ease discussions about specific placement of turbines; - a creator should be able to see all wind parks she/he has added (with added wind turbines) in a single list (it is very inconvenient if you have to scroll the map each time to go to the necessary wind park); - there should be a possibility to add specific areas with specific borders from spatial files with coordinates (it is very important for land owners, locals to know exact borders, not just freely drawn lines); - a useful functionality would be the possibility to add multiple siting scenarios for one park, if different turbine placement is considered. 	<p>and also include information about the area. We will consider the suggestion.</p> <ul style="list-style-type: none"> - Turbines are saved irrespectively of the wind farms, i.e. a creator may add turbines on existing parks or completely outside of parks - Nice idea, however, it is quite difficult to incorporate it in the current version. - Nice suggestion, we will try to incorporate it in the updated version. - Nice suggestion, we will try to incorporate it in the updated version. However, a single format of such spatial files should be provided to us (and all partners should follow this format) - This is already functional. The creator may add turbines on existing parks or completely outside of parks
9	As a creator I was somehow not able to add files on the wind farm I created.	More details are necessary because we have not experienced such problems


4.4.3 Are there any recommendations for further expanding the online platform?

No	Comment	UPAT response
1	-	-
2	-	-
3	-	-
4	-	-
5	It will be easier to evaluate the platform when there are more threads	We fully agree with this, and more threads are expected during the platform use under activity AII.4
6	(a) I missed (perhaps I did not notice it) a dedicated functionality to schedule consultation meetings for the stakeholders (with Doodle-like options for instance).	(a) Consultation is performed through forums. The design and current functionalities are in accordance with the Grant Agreement and the Design Guidelines provided by PROMEA. Based on the above,



	(b) I liked that the platform shows all the countries, I'm wondering if this feature will be retained in the final version? This could make it possible for stakeholders in various countries to compare the practices in the other countries. Of course, the languages are different - perhaps adding a "translate" feature for the document and fora in other countries (using e.g. Google Translate, if possible) could be an idea?	<p>even if we agree with the comment, we believe that this functionality is beyond the scope of our project</p> <p>(b) Nice idea, however, it is quite difficult to incorporate it in the current version. Yet, participants always have the opportunity to copy-paste the forums discussions to google translate so that they have an overview.</p>
7	Include biodiversity data without the need for the users to upload them	More information is required on how to proceed with this approach.
8	Somewhat added to the previous question.	-
9	When the platform is in use, I suppose the users will create very many discussion threads and it will be hard to have an overview. It will be important to have assigned moderators to keep it clear, to answer the questions etc. on a daily basis...	We fully agree with this point. According to the activity All.3 description, this is something that the standing environmental committee (one per partner) will be responsible for.

Annex A: Evaluation form - Questionnaire

<p>Supported by:</p>  <p>on the basis of a decision by the German Bundestag</p>	
<p>What is the purpose of this research?</p> <p>To evaluate the Wind4Bio Consultation Mechanism and provide feedback on its usability, including recommendations for improving the service.</p>	
<p>Who should participate?</p> <p>Team members from Green Liberty and WiseEuropa (and optionally from University of Patras and PROMEA) and ideally their stakeholders (e.g. energy & environmental ministries, regional/local authorities, environmental NGOs, citizens).</p>	
<p>Notice</p> <p>All participants should have tried out the Wind4Bio Consultation Mechanism (available at: https://wind4bio-mechanism.upatras.gr/) before completing the form.</p>	
<p>How long does it take?</p> <p>Approximately 5 minutes.</p>	
Participant profile	
Profile of Participant *	<input type="radio"/> Project Partner <input type="radio"/> Stakeholder
GENERAL INFORMATION (for “Project partner” participants)	
Partner *	<input type="radio"/> University of Patras <input type="radio"/> Green Liberty <input type="radio"/> WiseEuropa <input type="radio"/> PROMEA
Name *	
Email address *	
GENERAL INFORMATION (for “Stakeholder” participants)	
Country *	<input type="radio"/> Greece <input type="radio"/> Latvia <input type="radio"/> Poland <input type="radio"/> Other, please specify
Region *	

Type of organisation *	<input type="radio"/> Regional Authority <input type="radio"/> Local Authority <input type="radio"/> NGO <input type="radio"/> Other, please specify				
Name of organisation *					
Email address *					
What was your role while using the Consultation Mechanism? * <i>Note: New registered users are automatically assigned the “Member” role, and they can change their role only after contacting the platform administrator</i>	<input type="radio"/> member <input type="radio"/> creator				
RELEVANCE					
(for “Project partner” participants)					
Please indicate how much do you agree or disagree with each of the following statements *					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
As a <i>member</i> , through the map I could have an overview of wind farm projects throughout my country					
As a <i>member</i> , through the map I could check the biodiversity related files uploaded to wind farms					
As a <i>member</i> , I could create new threads					
As a <i>member</i> , I could make posts or reply to posts made by other users					
As a <i>member</i> , I could delete my threads and posts					
As a <i>member</i> , I could select my favorite forums					
As a <i>creator</i> , I had all the functionalities of the <i>member</i>					
As a <i>creator</i> , I could design wind parks & add markers (wind turbines) on the map					
As a <i>creator</i> , I could add biodiversity information (files, survey forms, file descriptions) to the parks created by me					
As a <i>creator</i> , I could delete the content and area that I created					



As an <i>admin</i> , I had all the functionalities of the <i>creator</i>					
As an <i>admin</i> , I could manage (edit, delete, create) the users of the platform					
As an <i>admin</i> , I could manage (edit, delete, create) forums, threads and posts					
RELEVANCE					
(for “Stakeholder” participants)					
Stakeholders with <i>member</i> role					
Please indicate how much do you agree or disagree with each of the following statements *					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Through the map I could have an overview of wind farm projects throughout my country					
Through the map I could check the biodiversity related files uploaded to wind farms					
I could create new threads					
I could make posts or reply to posts made by other users					
I could delete my threads and posts					
I could select my favorite forums					
Stakeholders with <i>creator</i> role					
Please indicate how much do you agree or disagree with each of the following statements *					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Through the map I could have an overview of wind farm projects throughout my country					
Through the map I could check the biodiversity related files uploaded to wind farms					
I could create new threads					
I could make posts or reply to posts made by other users					
I could delete my threads and posts					



I could select my favorite forums					
I could design wind parks & add markers (wind turbines) on the map					
I could add biodiversity information (files, survey forms, file descriptions) to the parks created by me					
I could delete the content and area that I created					

DESIGN AND FUNCTIONALITY

Please indicate how much do you agree or disagree with each of the following statements *

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The overall visual design of the platform is appealing					
The interface is attractive					
The interface is practical					
The mechanism includes controls that make it easy to use and navigate					
Registration to the platform is quick and easy					
The platform is loading and refreshing fast					
Access through mobile devices is easy and convenient					
The number of “clicking” to find the right page is low					
The platform has all the functions and capabilities a user expects it to have					

RECOMMENDATIONS

What are the main weaknesses of the online platform?

What aspects of the online platform should be improved? Please give examples.



Are there any recommendations for further expanding the online platform?