D1.6 – Platform user guide

WP1, T1.3 Web-based knowledge platform for agricultural nutrients from secondary resources recovery
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Abbreviations

Table 1-1: List of abbreviations

BIO	Biological
BBF	Bio-based fertilizer
EWC	European waste codes
NACE	Statistical classification of economic activities
NR	Nutrient recovery
WNP	Walnut platform

1. Executive Summary

The Walnut platform is a representation of the continuously evolving attempts that the EU-matrix makes towards closing the waste water (WW) and macro & micro - nutrients cycles.

The platform aims 1) to promote the industrial symbiosis among WalNUT stakeholders (and EU-27 MS after its publication), and 2) to provide a structured repository of knowledge related to agricultural nutrients from secondary resources, covering the entire value chain. It is interactive & facilitates the availability, coherence and quality required for the BBF promotion, while it provides access to key nutrients information within and beyond Europe. The platform is also integrated with the project's website, to be fully accessible to partners & potential users.

The platform user starts by registering to the platform. After receiving a confirmation e-mail with the activation link, they can use the credentials they had set to log-in. Once on the platform, they can start creating their user profile. A first step to that is to select their role(s). According to the chosen role, they will be required to enter specific information about what they can offer or what they are looking for (WW streams, BBF products, WW management services, technological expertise, consultancy). After that, the algorithm of the platform will suggest the best possible matches for each user, based on 3 variables: distance, quality, and quantity. Then the user can select the matching partner they want to move forward with the transaction. Within the platform, the users can have a snapshot of key statistics/metrics which can help them get useful insights about the WalNUT ecosystem. Lastly, the platforms offer supportive features, such as user search, messages panel, notes, announcements, FAQs, as well as links to the WLP portal & the WalNUT project.

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2. Registration

You start by visiting the platform page @ www.walnutplatform.eu. On the landing page, you see a login section and a registration section.
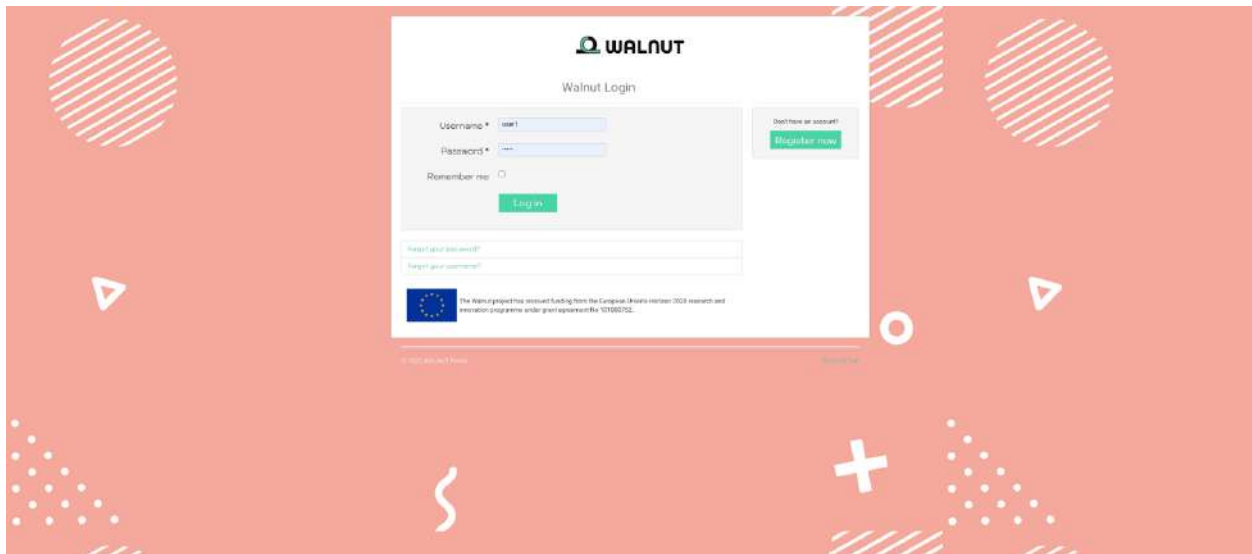

Figure 2-1: Platform landing page

You click on the "register now" button. Here, you are first asked to set-up your profile credentials along with your e-mail. Then you enter the details of your company along with its address. And, as the last step, you are asked to provide your company's NACE code. Just like that. You tick the terms & conditions box, once you have read them, and click register.

Figure 2-2: Registration page

You should then receive a confirmation in the e-mail you provided. (remember to check your spam too). Click on the activation link of that e-mail. Now you are ready to login with the credentials you had set.

3. Homepage

Once you are logged in, on the homepage you can see an overview of the platform information with news, key metrics, your messages and a panel on the left hand side to help you navigate.
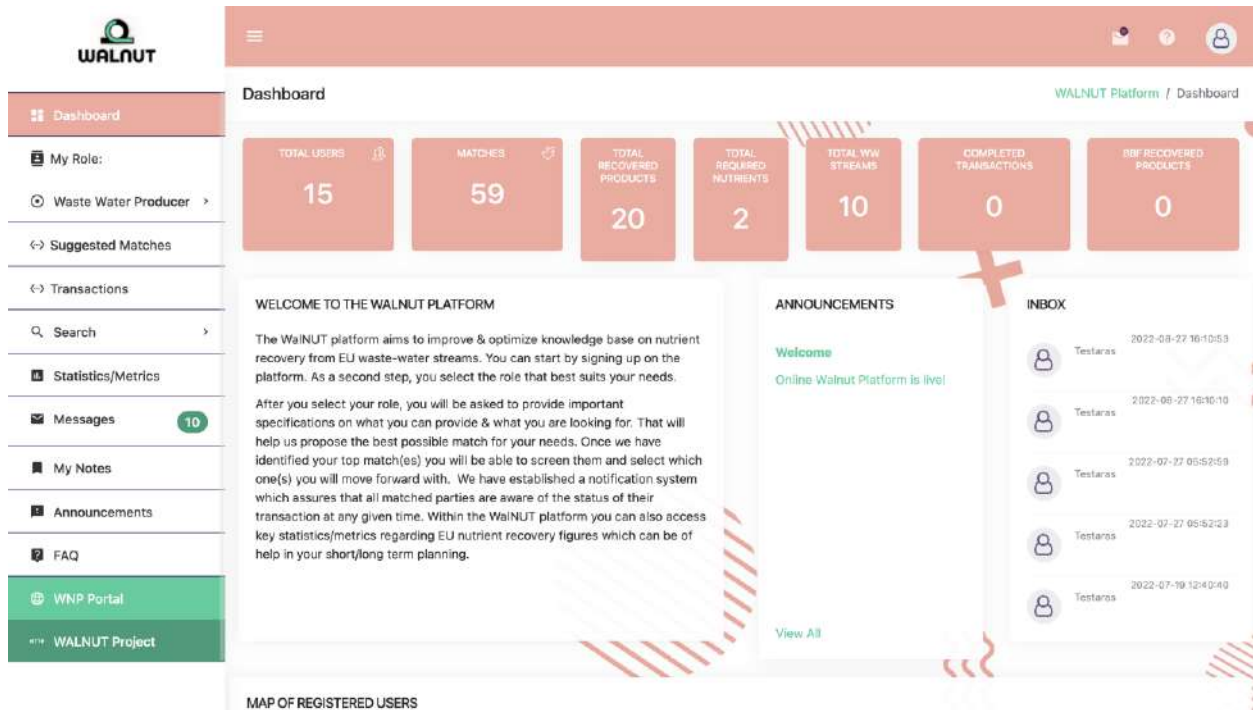

Figure 3-1: Platform's homepage

4. Role selection

You can start by clicking on the "my role" tab. Here you can choose one or multiple roles that best suit your needs. Each role has different purposes and you will be asked to provide important specifications.
The available roles & sub-roles are the following:

- Waste Water Producer
  - A)   You don't apply NR technologies
  - B)   You apply NR technologies
  - C)   Both
- End User
  - A)   Farmer
  - B)   Agricultural Association
  - C)   Bio-based fertilizer producer
- Waste Water Aggregator
- Technology Provider
- Consultant

Figure 4-1: Platform roles

4.1 Waste Water producer

Role Description: You are an industry/company representative who has waste water stream(s) rich in nutrients
a) which are available for valorisation practices
b) which applies or not have nutrient recovery practices and is looking for experts in the field.

The Waste water producer role consists of 3 sub-roles:
- A)   You who do not apply NR (nutrient recovery) technologies
- B)   You who apply NR (nutrient recovery) technologies
- C)   Both

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4.1.1 User doesn't apply NR (nutrient recovery) technologies

Add Waste Water Stream: You will be asked to provide

1. Info about the stream (EWC, Quantity, description)
2. The characteristic of the WW stream 1 or more waste water streams your company produces.

Figure 4-2: WW Producer: Stream info

Figure 4-3: Nutrients Characteristics

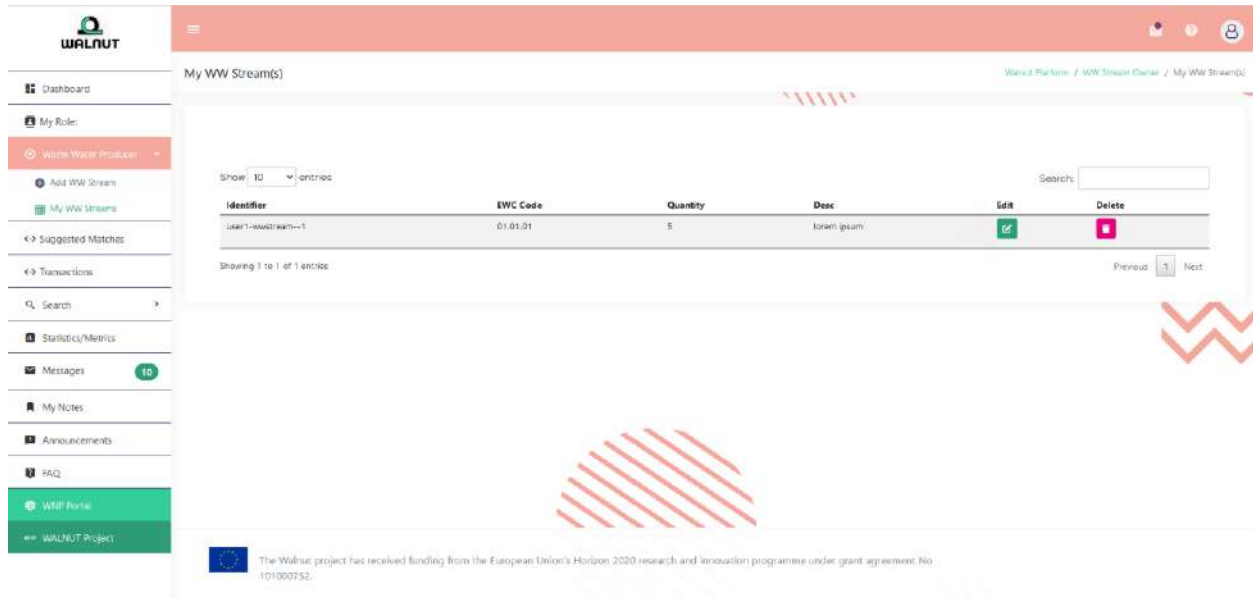**My WW Streams**: You can manage, edit or delete your streams on this screen.

Figure 4-4: My WW streams

4.1.2 User applies NR (nutrient recovery) technologies

Add Recovered Product: User will be asked to provide the specifications of the product nutrients they can recover.
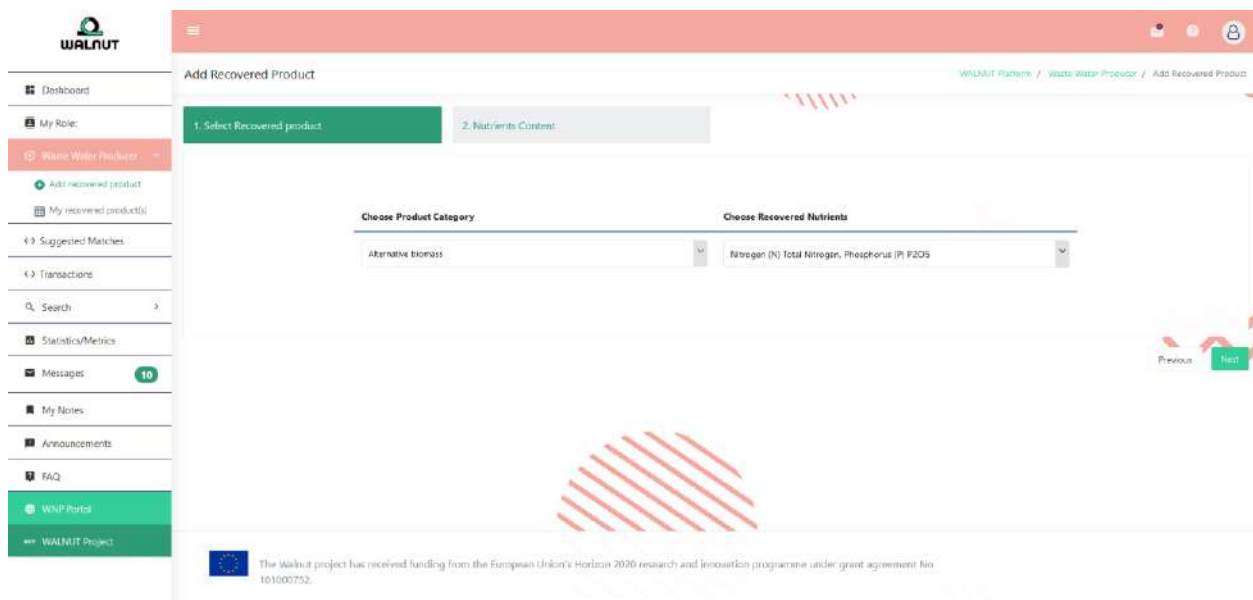
Figure 4-5: Add recovered product
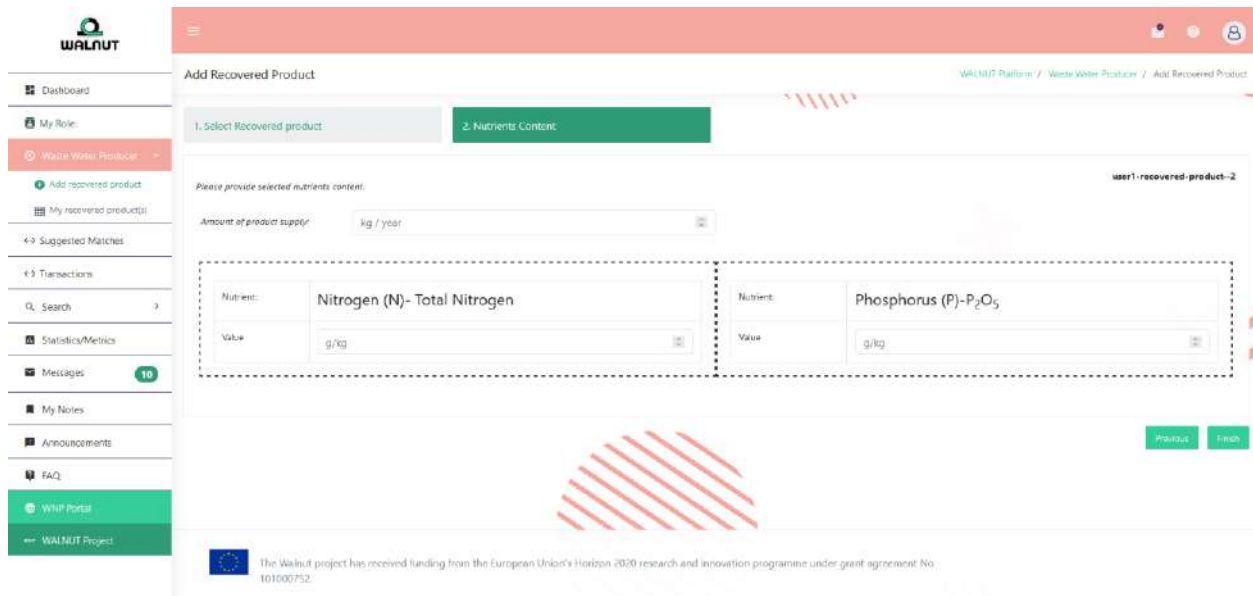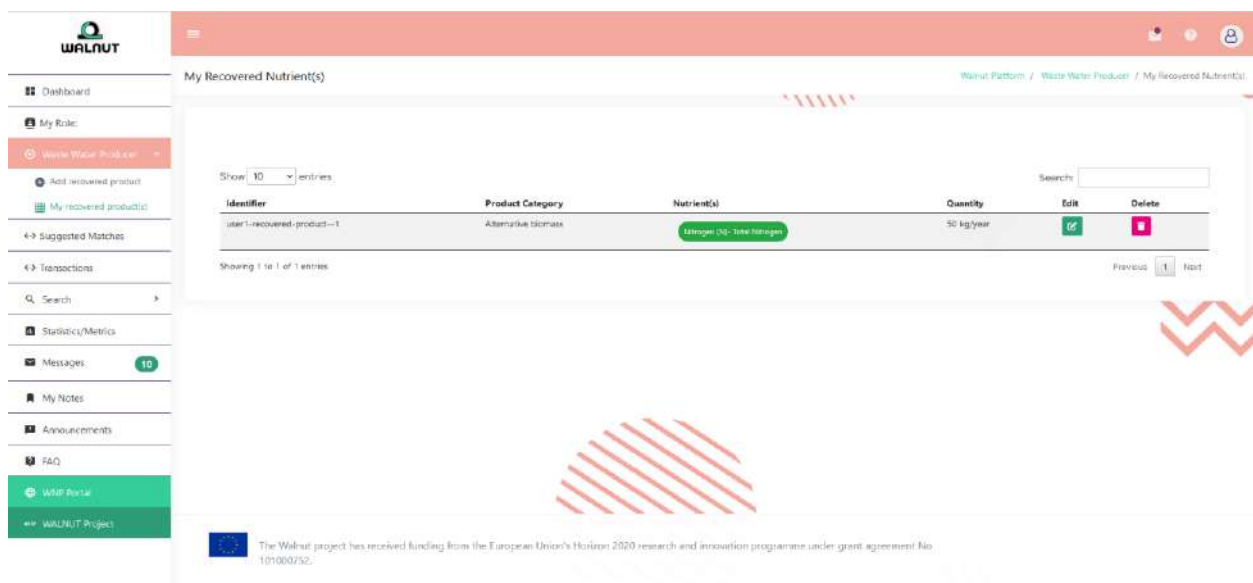
Figure 4-6: Nutrients Characteristics

Manage Recovered Product: Similarly, in this screen, you can manage, edit or delete any inserted products nutrients.

Figure 4-7: My recovered products

4.1.3 Both

By choosing this sub-role, you indicate that you hold WW streams which parts of them have been exposed to nutrient recovery technologies while other parts have not. The screens that follow are equivalent to the two previous sub-roles.

4.2 End User

Role Description: You are looking for cost-efficient bio-based fertilizing products such as struvite, biochar, and recovered nitrogen while you also seek consultation on how to

apply them. You might also be a fertilizer producer, who is looking for specific nutrients.

The End user role has three sub-roles:
   A) Farmer
   B) Agricultural Association
   C) Bio-based fertilizer producer

4.2.1 Farmer

Add Required Nutrients: As a farmer, you will be asked to provide the quantities of the required nutrients you seek to obtain.
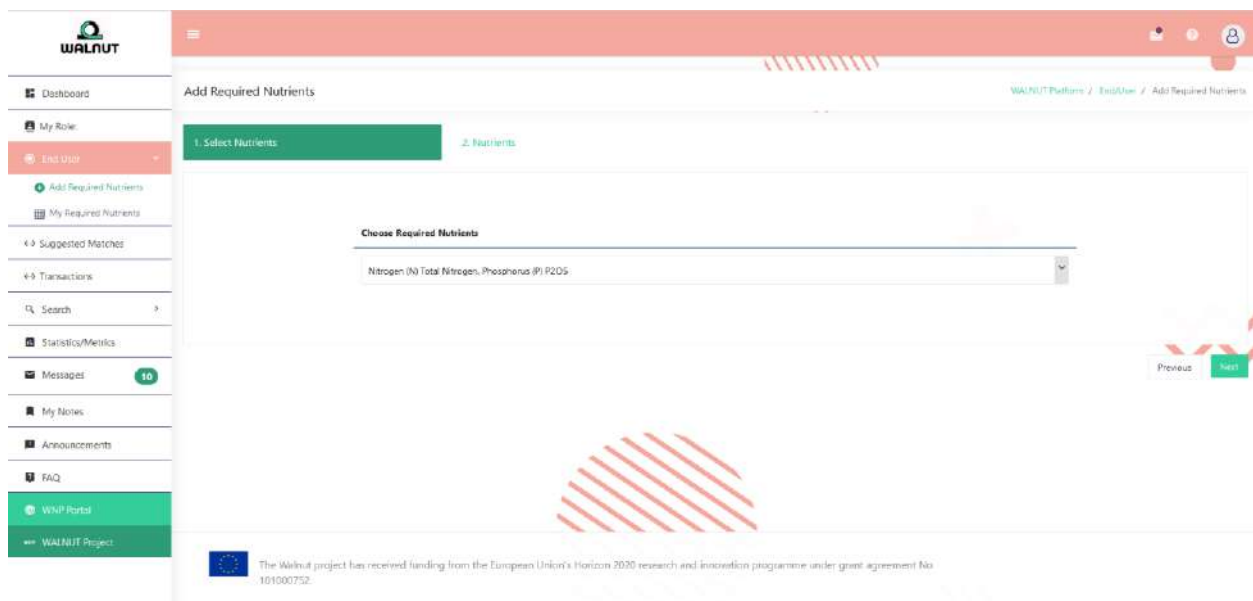
Figure 4-8: Add Required Nutrients
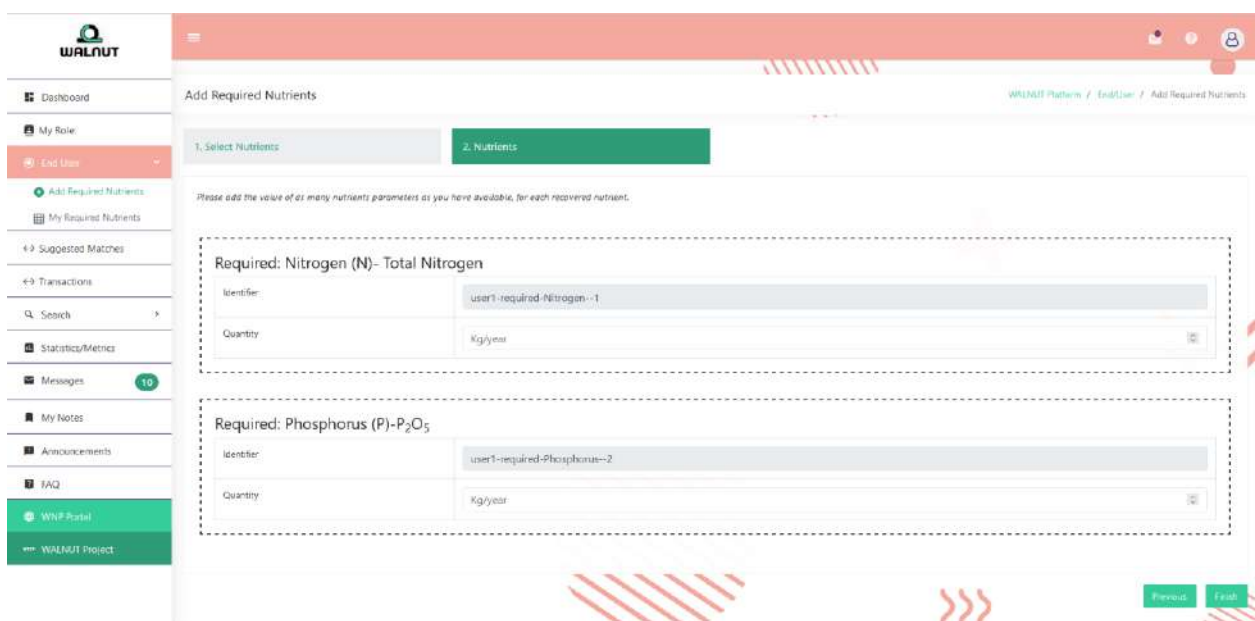
Figure 4-9: Add Required Nutrients Info

My required Nutrients: You can manage, edit or delete any required nutrients.

Figure 4-10: My Required Nutrients

4.2.2 Agricultural Association

Add Required Nutrients: As an Agricultural Association, you will be asked to provide the quantities of the required nutrients you seek to obtain.

Figure 4-11: Add required nutrients

Figure 4-12: Add required nutrients info

My required Nutrients: You can manage, edit or delete their required nutrients.

Figure 4-13: My required nutrients

4.2.3 Bio-based fertilizer producer

Add BBF Products: As a Bio-based fertilizer producer, you will be asked to provide the specifications of the Bio-based fertilizer products (nutrients) they can produce.
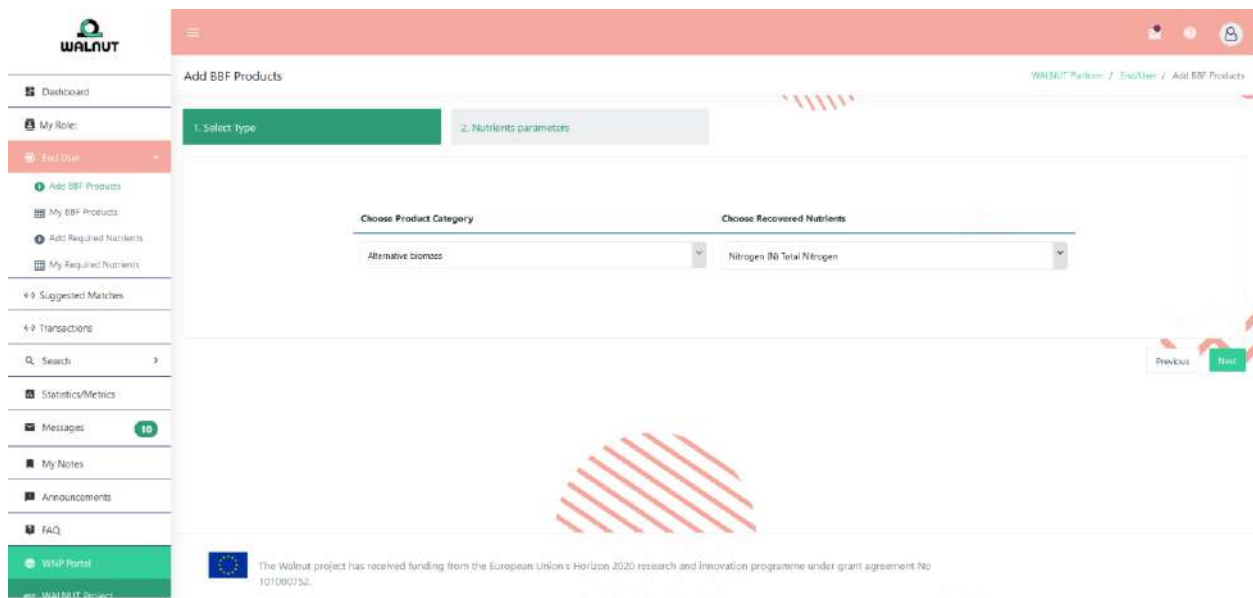
Figure 4-14: Select the BBF product's type
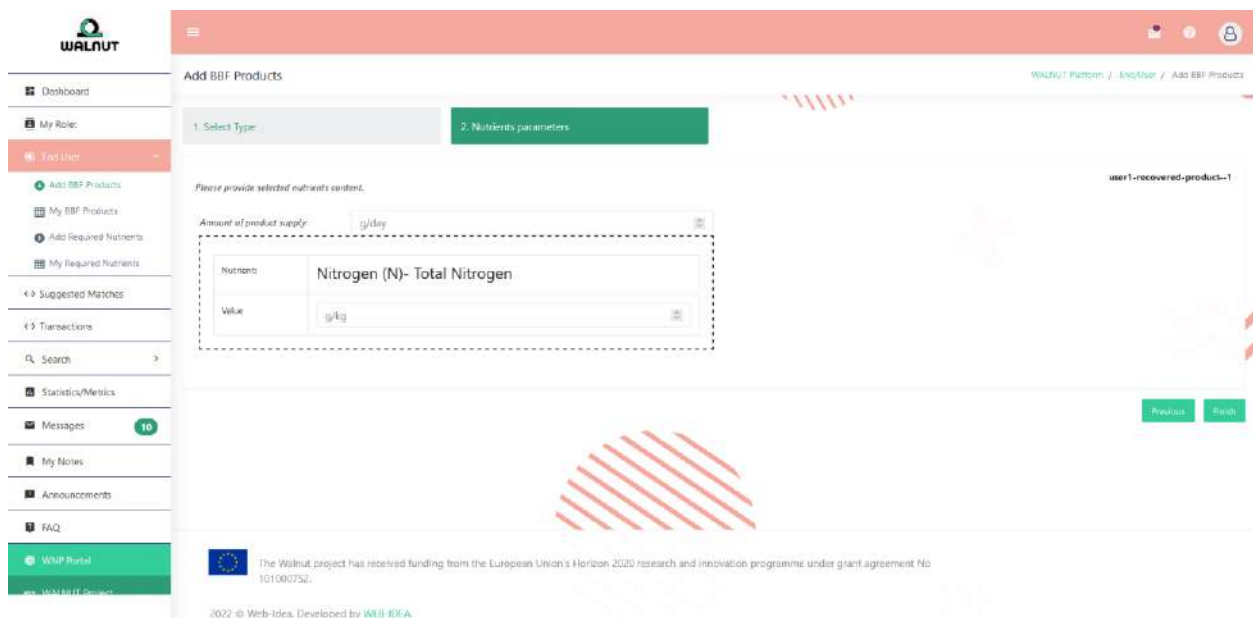
Figure 4-15: Add nutrients parameters of the BBF product

My BBF Products: Similarly on this screen, you can manage, edit or delete any inserted Bio-based fertilizer produced products.

Figure 4-16: My BBF products

Add Required Nutrients: As a BBF producer, you will also have the option to provide the quantities of the required nutrients they possibly need.

Figure 4-17: Add Required Nutrients

Manage Required Nutrients: On this page, users can manage, edit, or delete all their previously inserted required nutrients.

Figure 4-18: My recovered products

4.3 Aggregator

Role Description: You are an entity that collects, treats, and recovers nutrients from waste water streams.

Add EWC(s): On this page, you will be asked to provide the quantities of all the potential EWC codes of the waste water producers whose stream can be treated with the Waste water technology treatment you acquire.

Figure 4-19: Add EWC(s)

Manage EWC(s): You can manage, edit or delete any inserted EWC codes.

Figure 4-20: My EWC(s)

Add Recovered Products: As a waste water aggregator, you will also have the option to provide the specifications of the recovered products.

Figure 4-21: Add recovered product(s)

Figure 4-22: Add nutrient content

My Recovered Products: You can manage, edit or delete any inserted recovered products.

Figure 4-23: My required nutrient

4.4 Technology Provider

Role Description: You offer expertise in nutrient recovery technologies/processes.

Add EWC(s): As a technology Provider, you will be asked to select all the potential EWC codes that they can treat with the waste water treatment technology they acquire.
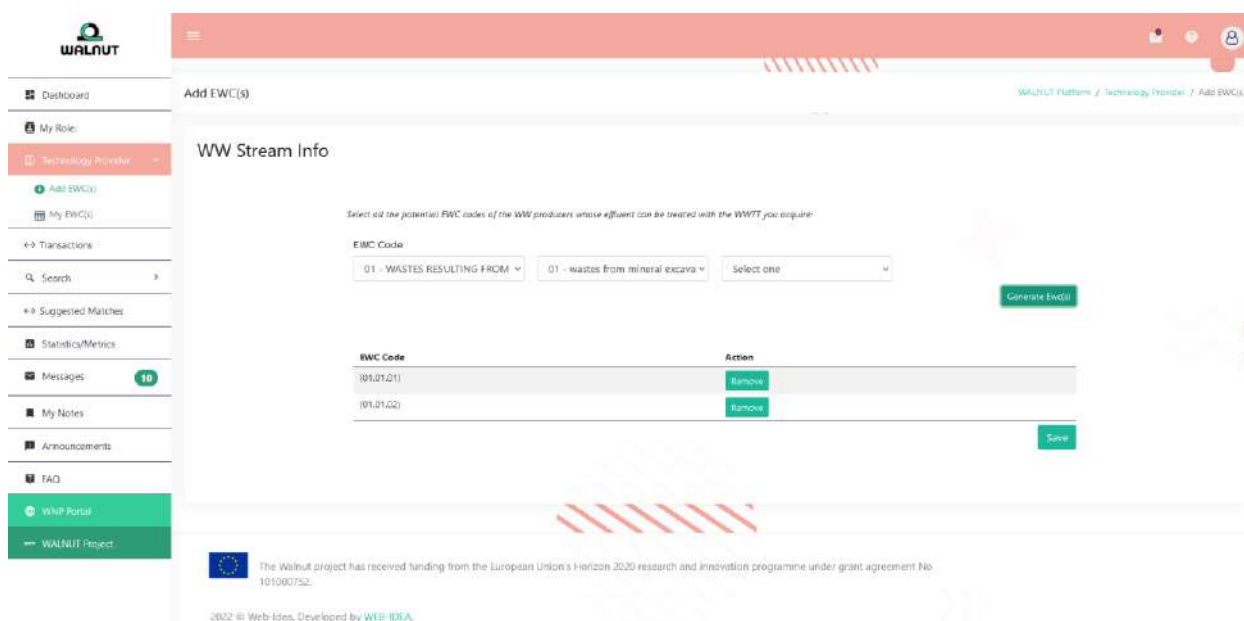
Figure 4-24: Add EWC(s)

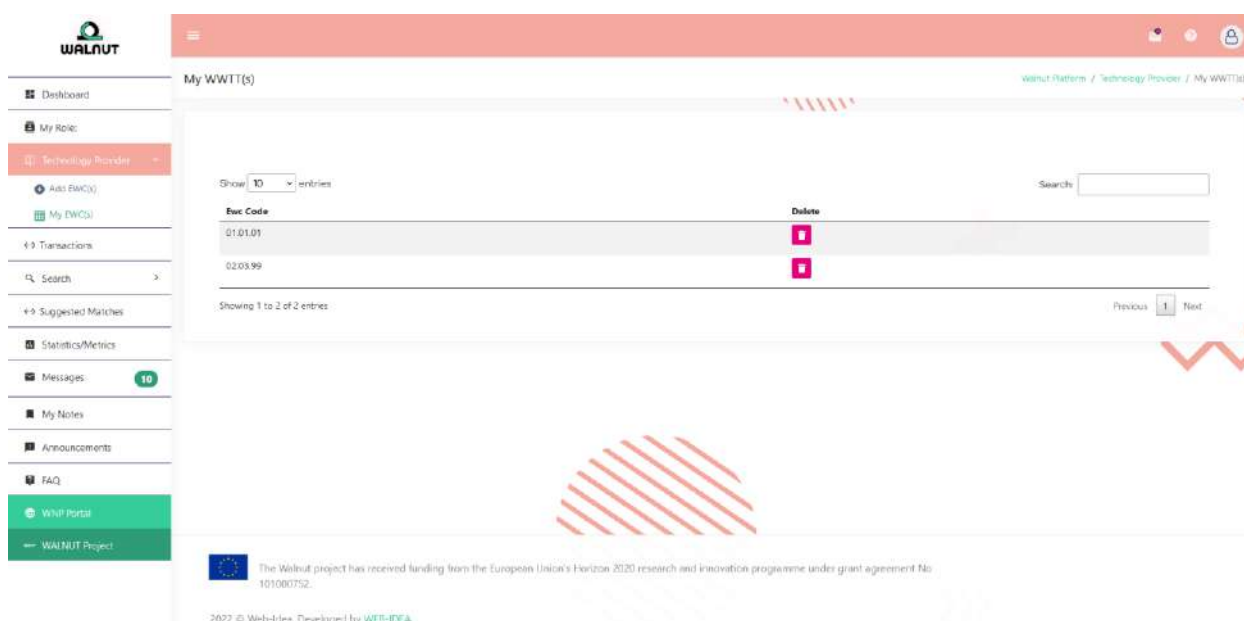**My EWC(s):** On this page, you can manage your inserted EWC(s) codes.

Figure 4-25: My EWC(s)

4.5   Consultant

Role Description: Users facilitate the knowledge gaps regarding policy affairs, economic sustainability & bio-based fertilizers production/application
As a consultant, they will be asked to choose what role(s) they can support – consult. After their selection, the WalNUT platform will match them with other users who need a consultant for their business or company.

Figure 4-26: Select consultant role

5. Matches

Once matching roles have been registered into the platform, the algorithm takes 3 main variables into account to suggest a match: The quality/quantity of the nutrient/product, and the distance between the related parties. Once the platform has identified a user's top matches, they will be able to screen them and select which one they will move forward with within the Suggested Matches Page. On this screen, they can view important details about their matches and contact them.

Figure 5-1: Suggested matches tab

Possible Matches

Table 5-1: List of possible matches

Waste Water producer – Does not apply NR technologies	< == >	Waste Water Aggregator Tech Provider
Waste Water producer – Applies NR technologies	< == >	End Users (all)
Waste Water producer - both	< == >	End Users (all) Waste Water Aggregator Tech Provider
End Users (Farmer, Agricultural Association)	< == >	Consultant The end user (BBF Producer) Waste Water Aggregator
End Users (BBF Producer)	< == >	WW Producer that doesn't apply NR technologies Waste Water Aggregator End Users (Farmer, Agricultural Association)
Waste Water Aggregator	< == >	Tech Provider WW Producer that applies NR technologies End Users (all)
Tech Provider	< == >	WW Producer that doesn't apply NR technologies Waste Water Aggregator
Consultant	< == >	All roles

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6. Transactions

Within the WalNUT Platform, a user can initiate contact with other matched users by starting a transaction. A transaction with another user can start by clicking the transaction button on the suggested matches page. Then, they will have to wait for the other user to accept the invitation to begin the transaction.

A user may view pending approval transactions under the **My transactions** page:

Figure 6-1: Transactions tab

7. Search

You can use the search tab to find a specific user within the WalNUT platform. Select the type of user from the drop-down list in the navigation panel. All the users under that role should be presented in a table format on your screen. Type in the top right corner of the search field, the name of the user you are looking for. All relevant results should appear as you type your search.

Figure 7-1: Search tab

8. Statistics

Within the WalNUT platform users can also access key statistics/metrics regarding EU nutrient recovery figures which can be of help in their short/long-term planning.
Some of the charts include insights about:
- Registered users per role
- Registered users per country
- Register users per NACE
- Register users per EWC
- Total matches & completed transactions
- Bio-based fertilizer recovered products

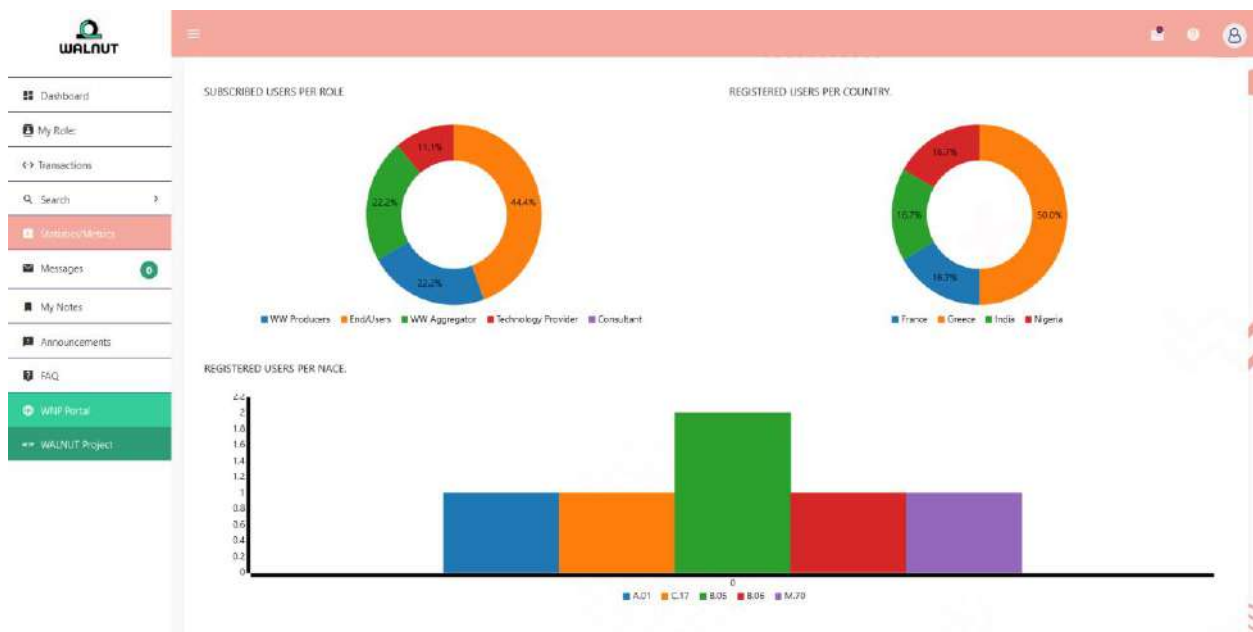Figure 8-1: Statistics/Metrics

9. Messages / Notes / Announcements / Links

On the messages, tab users can view and send messages to other users.

Figure 9-1: Messages tab
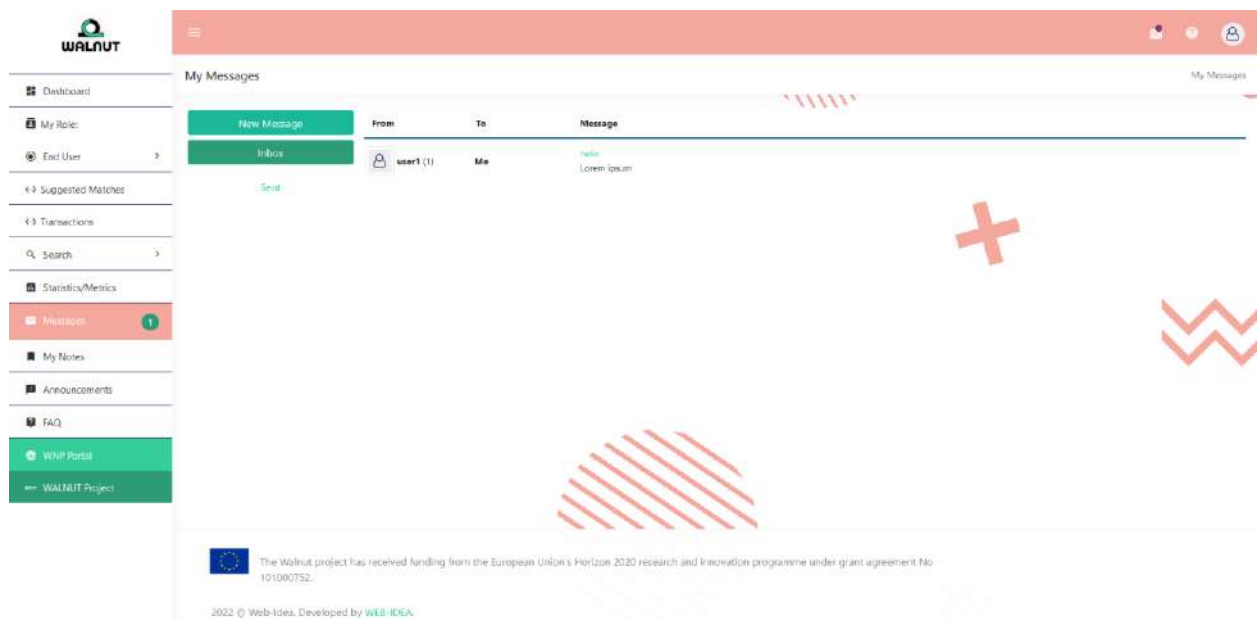
On the notes, tab users can add/view notes.

Figure 9-2: Notes tab

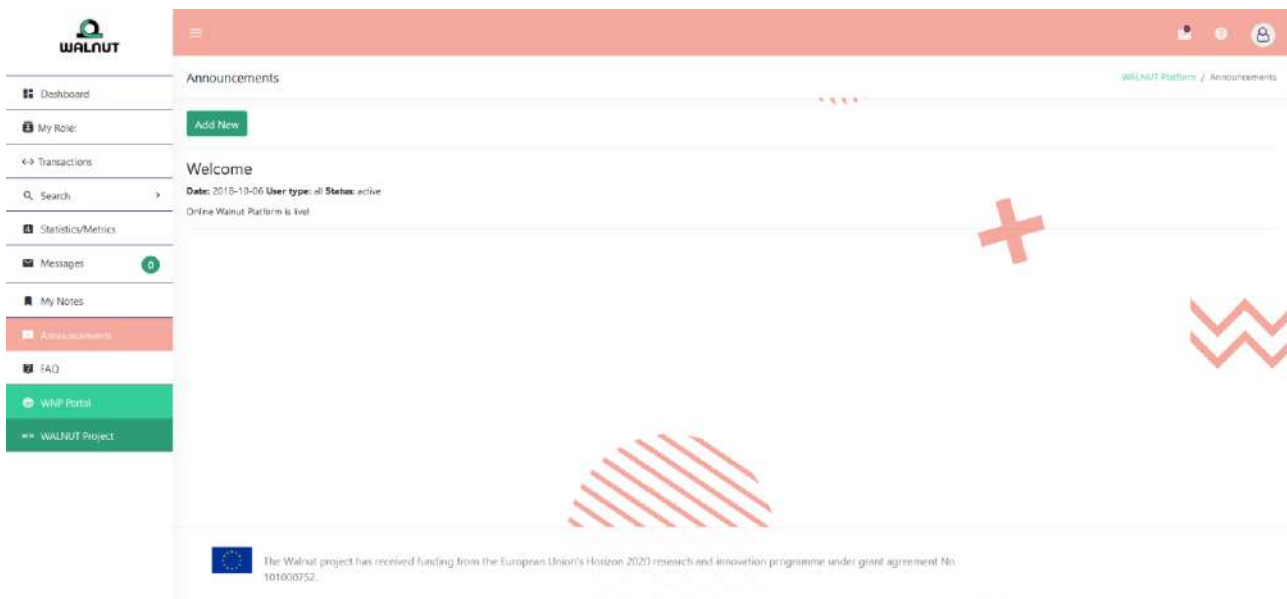On the announcements, tab users can view announcements about the WalNUT platform.

Figure 9-3: Announcements tab

The last two links from the navigation panel, allow users to go directly to the Walnut platform portal and/or the Walnut project website
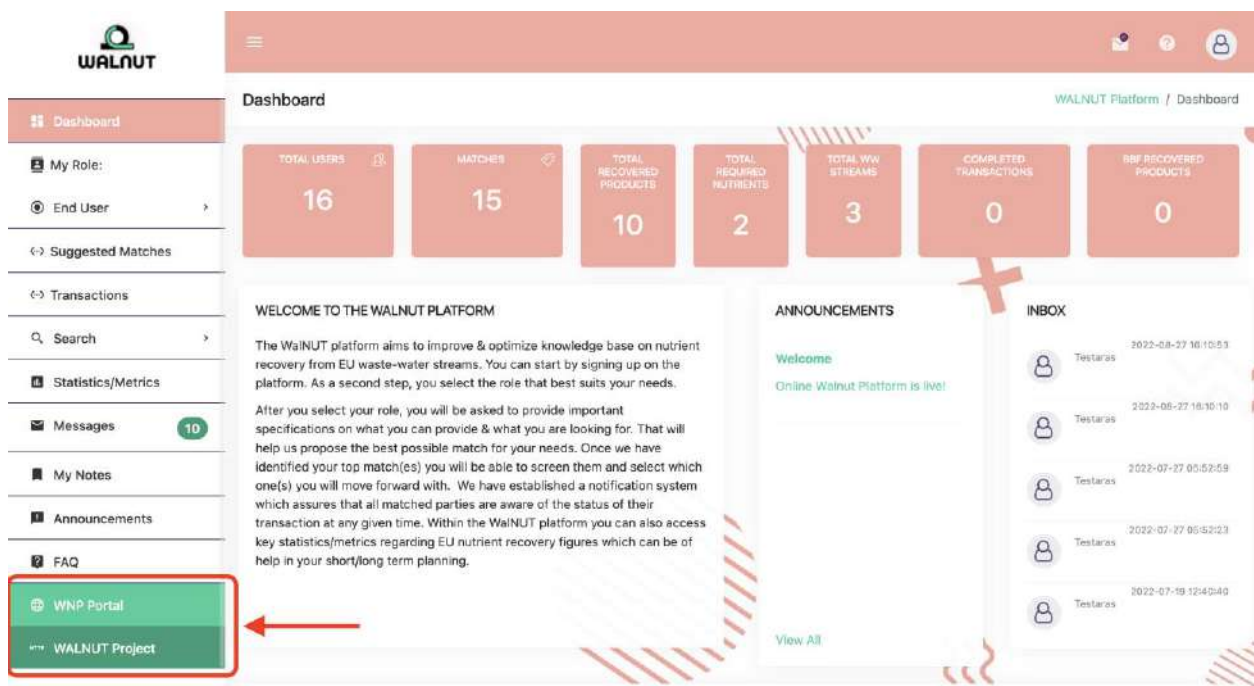

Figure 9-4: Links to Walnut Platform Portal & Walnut Project

10. Conclusions

This manual helps the Walnut platform users to better navigate through it, and achieve its ultimate goal which is to close the waste water cycle, by bringing together problem owners, technology providers, intermediate users and policymakers. Users can also view the video tutorial (here) which provides a more interactive overview of the platform.

In case questions arise or assistance is needed with the platform, users can contact the NTUA team. (kyriazimaria@mail.ntua.gr)

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11. Next steps

The consortium of Walnut is scheduling special workshops with stakeholders for the demonstration of the Walnut platform, the registration of as many as possible users as well as the creation of industrial symbiosis clusters. It is of the scope of Walnut partners and the NTUA team (developer of the Walnut platform) to receive any comment that could improve the platform and elaborate on it.

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