



ZERO BRINE

Reusing resources from industrial wastewater

INTRODUCCIÓN A LA ONLINE BRINE PLATFORM



The ZERO BRINE project (www.zerobriner.eu) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730390.

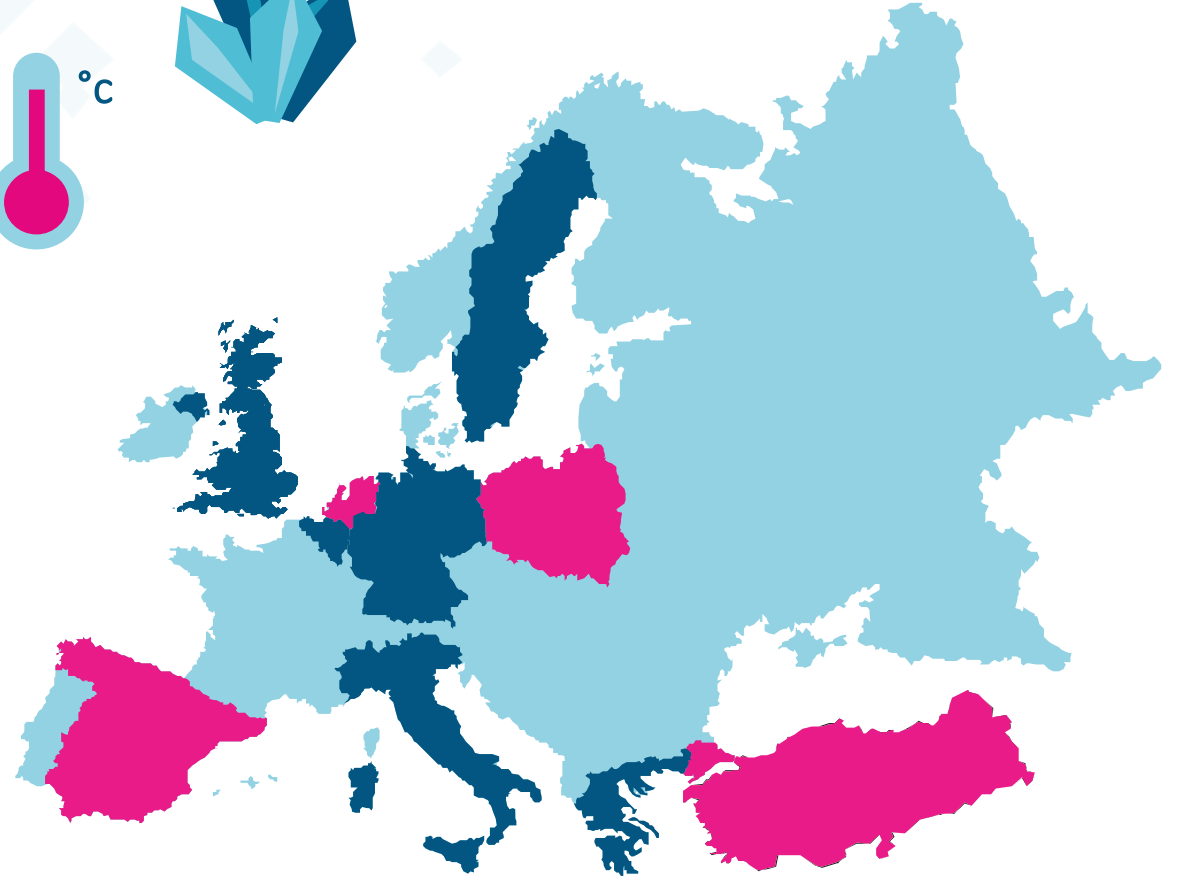
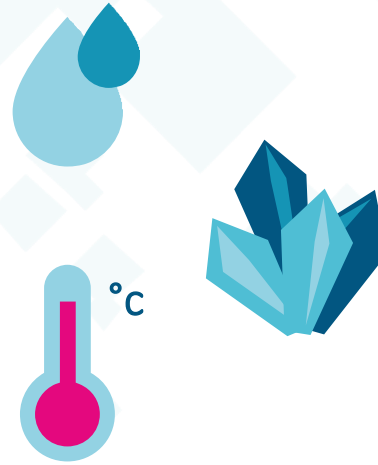


ZERO BRINE

Online Brine Platform

Tres conceptos básicos:

- Intercambio de conocimiento
- Diálogo entre partes interesadas
- Sistema avanzado de simbiosis industrial europeo





ZERO BRINE

Un espacio digital necesario



Promover la simbiosis industrial en la Unión Europea



Facilitar las sinergias entre entidades generadoras de salmueras y proveedoras de tecnología



Poner a disposición tratamientos de salmuera efectivos que den solución a problemáticas industriales



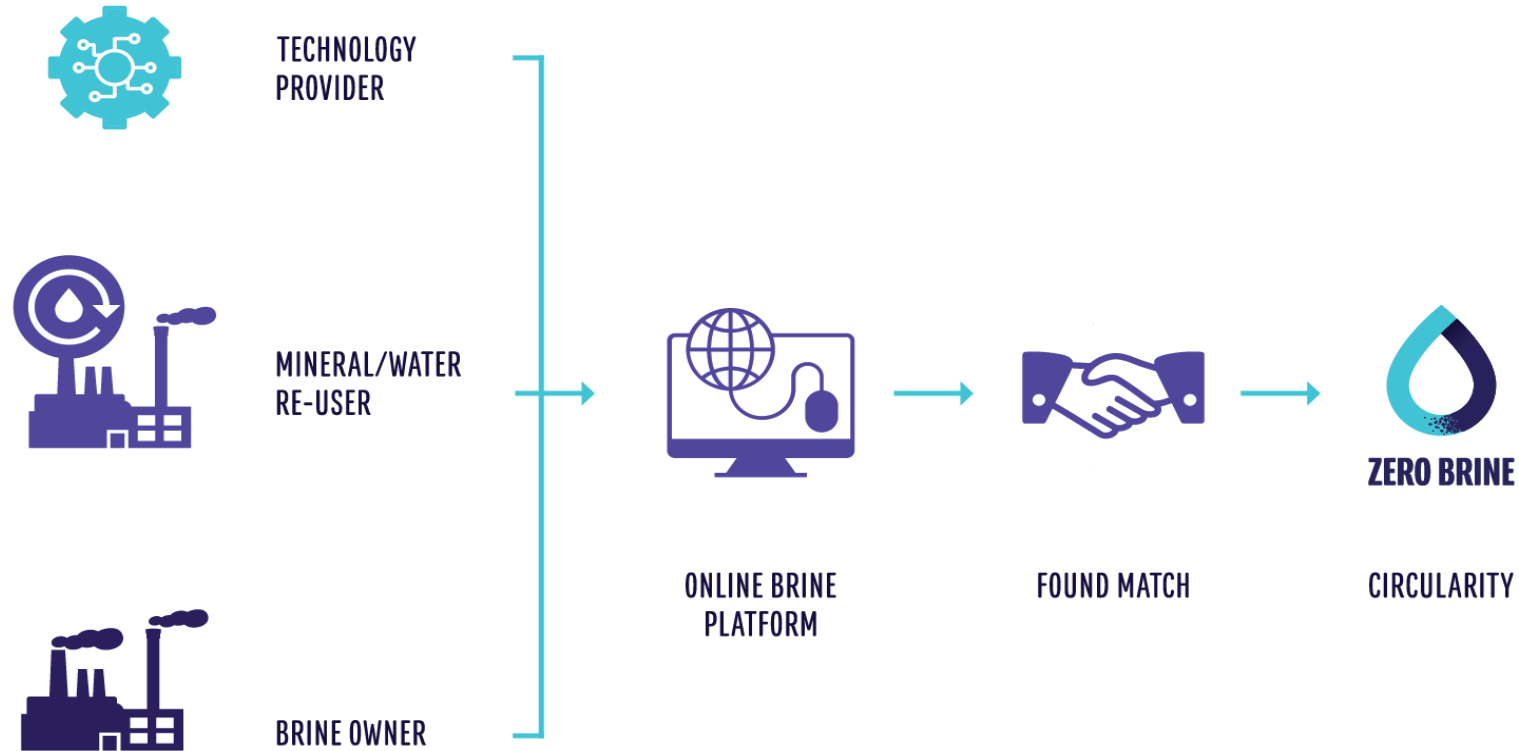
Impulsar la economía circular y la gestión eficiente de recursos



Agilizar el diálogo entre las partes interesadas o stakeholders



Online Brine Platform





Acceso desde web

www.zerobrine.eu



[HOME](#) [ABOUT](#) [PROJECT](#) [RESULTS](#) [MEDIA](#) [EVENTS](#)

A screenshot of the ZERO BRINE website homepage. The background is a dark blue network of glowing nodes and lines. A hand is visible on the left, interacting with the network. A dark blue navigation menu is open, listing: "Our Work", "Pilot Plants", "Brine Excellence Centres", "Online Brine Platform" (highlighted with a pink oval), and "Digital Journey". Below the menu, the text "Online Brine Platform" is displayed in large white font, with a pink "Register today!" button underneath.

Our Work
Pilot Plants
Brine Excellence Centres
Online Brine Platform
Digital Journey

Online Brine Platform

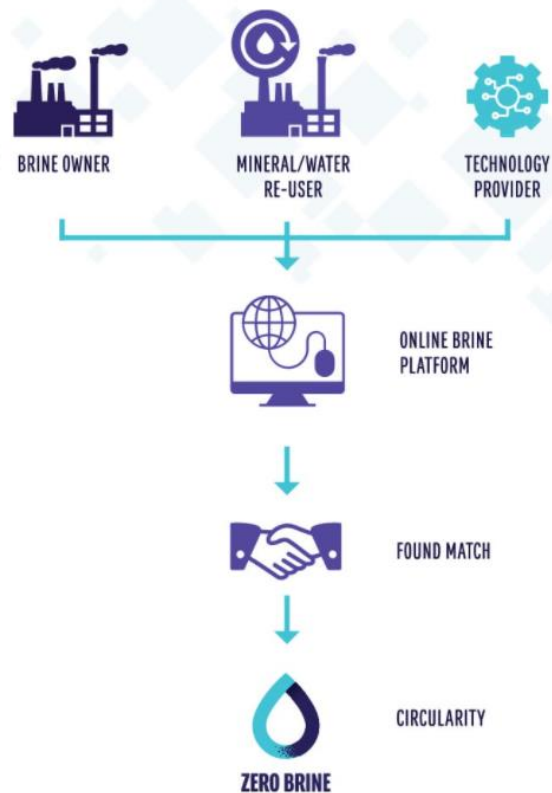
Register today!



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Registro paso a paso

HOME ABOUT **PROJECT** RESULTS MEDIA EVENTS



REGISTER TO THE ONLINE BRINE PLATFORM

BRINE OWNERS

can offer either the untreated saline streams or already recovered materials

BRINE RE-USERS

can upload their needed materials and wait for a match or browse through the platform on their own

- ✓ Specific content on saline wastewater management
- ✓ Stakeholder interaction

LOGIN

REGISTER

Registro paso a paso

REGISTRATION

Connection details

<input type="text" value="Username*"/>	<input type="text" value="Password*"/>	<input type="text" value="Confirm Password*"/>	<input type="text" value="Email*"/>
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Please note that your username will be visible to all OBP users.

Industry details

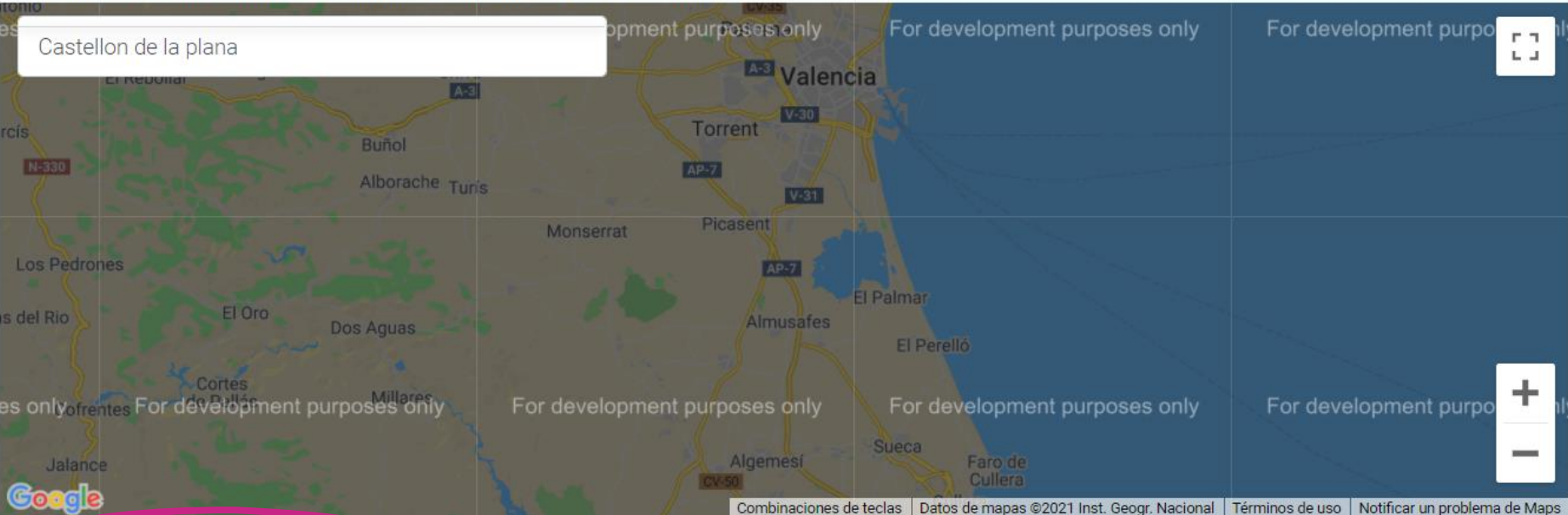
<input type="text" value="Industry Name"/>	<input data-bbox="1299 785 2160 842" type="text" value="Select your Industrial Cluster"/>
<input type="text" value="NIC"/>	<input type="text" value="Website"/>

Registro paso a paso

Address

Please insert the address that corresponds to the facilities of your enterprise.

Castellon de la plana

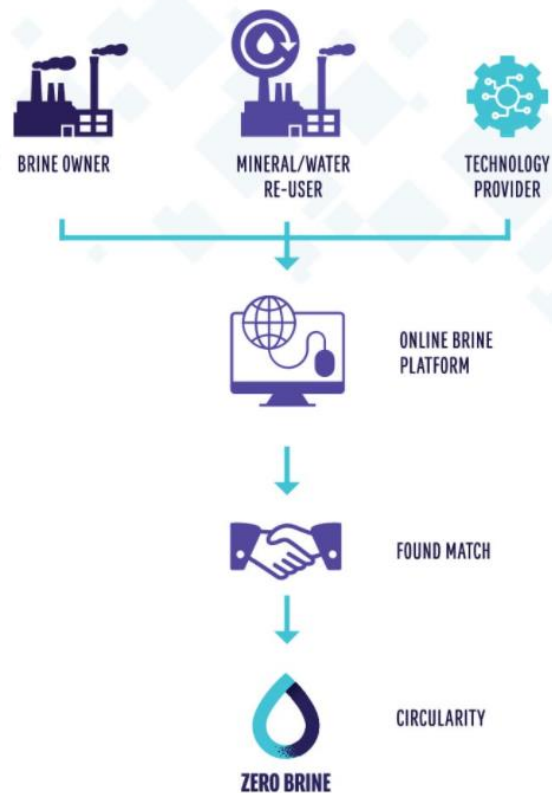


Avinguda del mar Spain Latitude Longitude

Can't find your address? Location visible to OBP Users

Login desde web

HOME ABOUT **PROJECT** RESULTS MEDIA EVENTS



REGISTER TO THE ONLINE BRINE PLATFORM

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BRINE RE-USERS

can upload their needed materials and wait for a match or browse through the platform on their own

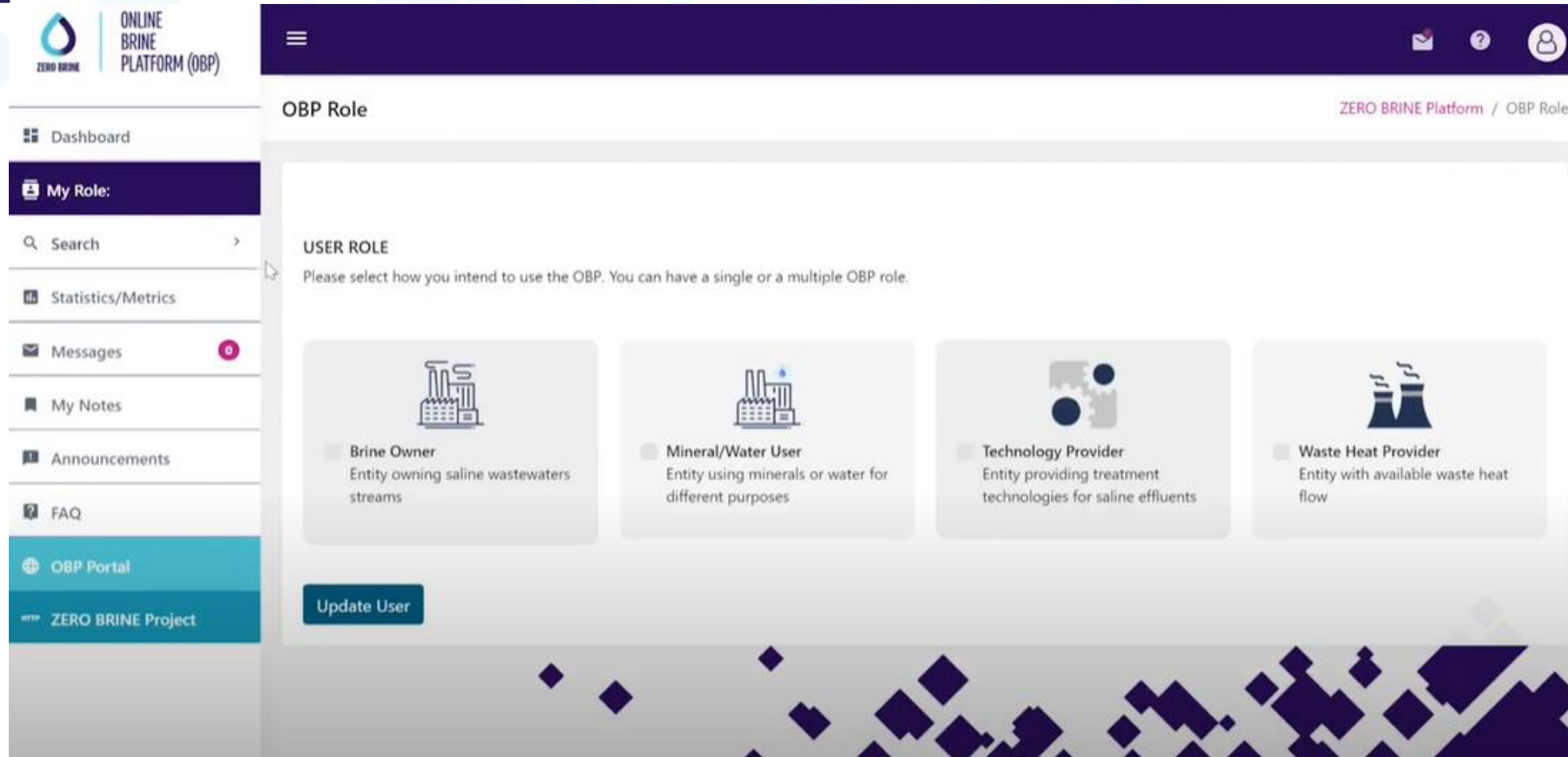
✓ Specific content on saline wastewater management

✦ Stakeholder interaction

LOGIN

REGISTER

Navegando en la OBP

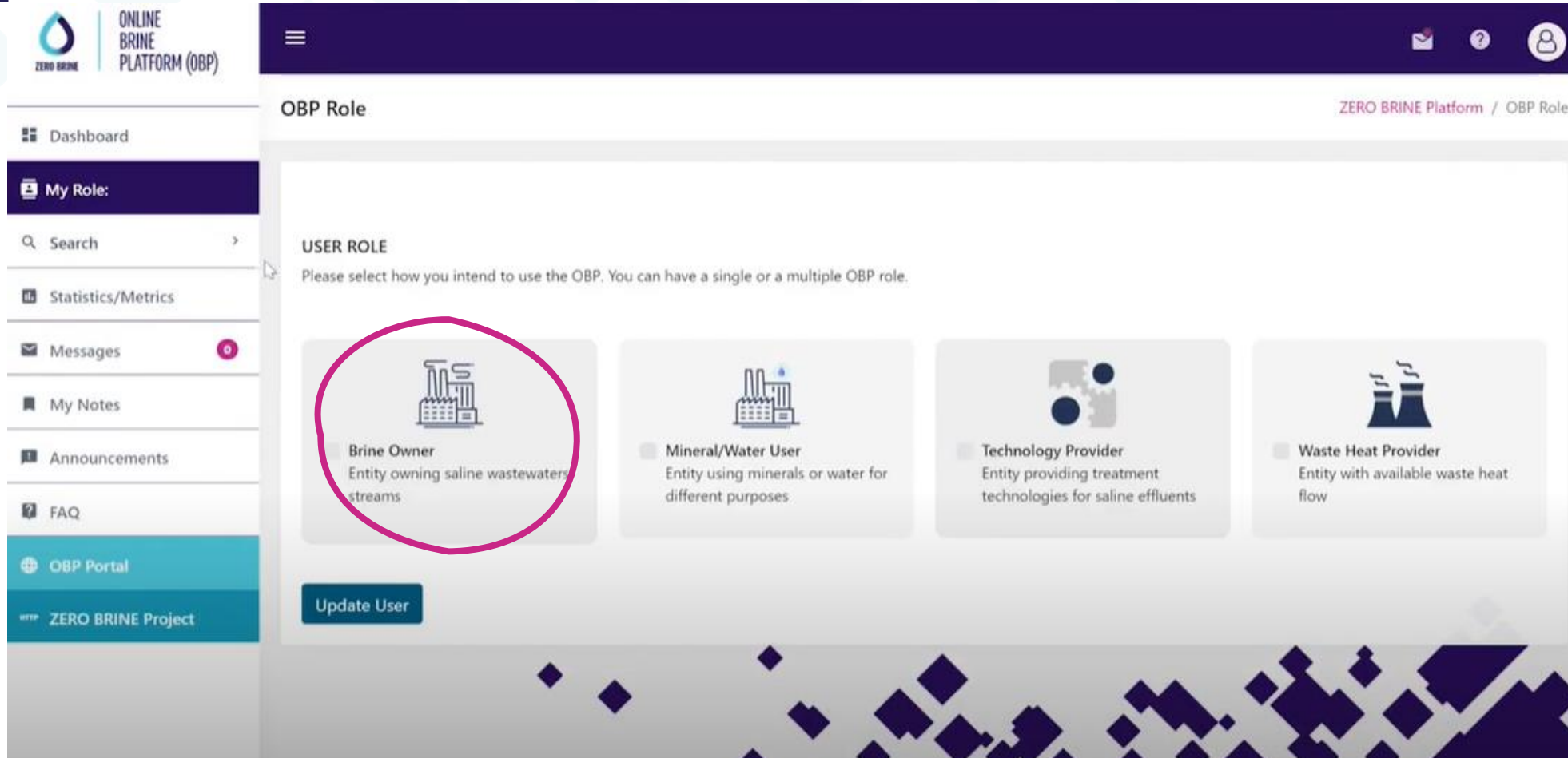


The screenshot displays the 'OBP Role' configuration page in the ZERO BRINE ONLINE BRINE PLATFORM (OBP). The interface includes a dark blue navigation bar at the top with a menu icon, a notification icon, a help icon, and a user profile icon. The breadcrumb trail shows 'ZERO BRINE Platform / OBP Role'. A left sidebar contains navigation options: Dashboard, My Role (highlighted), Search, Statistics/Metrics, Messages (with a red notification badge), My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project. The main content area is titled 'OBP Role' and contains a 'USER ROLE' section with the instruction: 'Please select how you intend to use the OBP. You can have a single or a multiple OBP role.' Below this instruction are four selectable role cards, each with an icon and a description:

- Brine Owner**
Entity owning saline wastewaters streams
- Mineral/Water User**
Entity using minerals or water for different purposes
- Technology Provider**
Entity providing treatment technologies for saline effluents
- Waste Heat Provider**
Entity with available waste heat flow

An 'Update User' button is located at the bottom left of the role selection area.

Generadores de salmueras

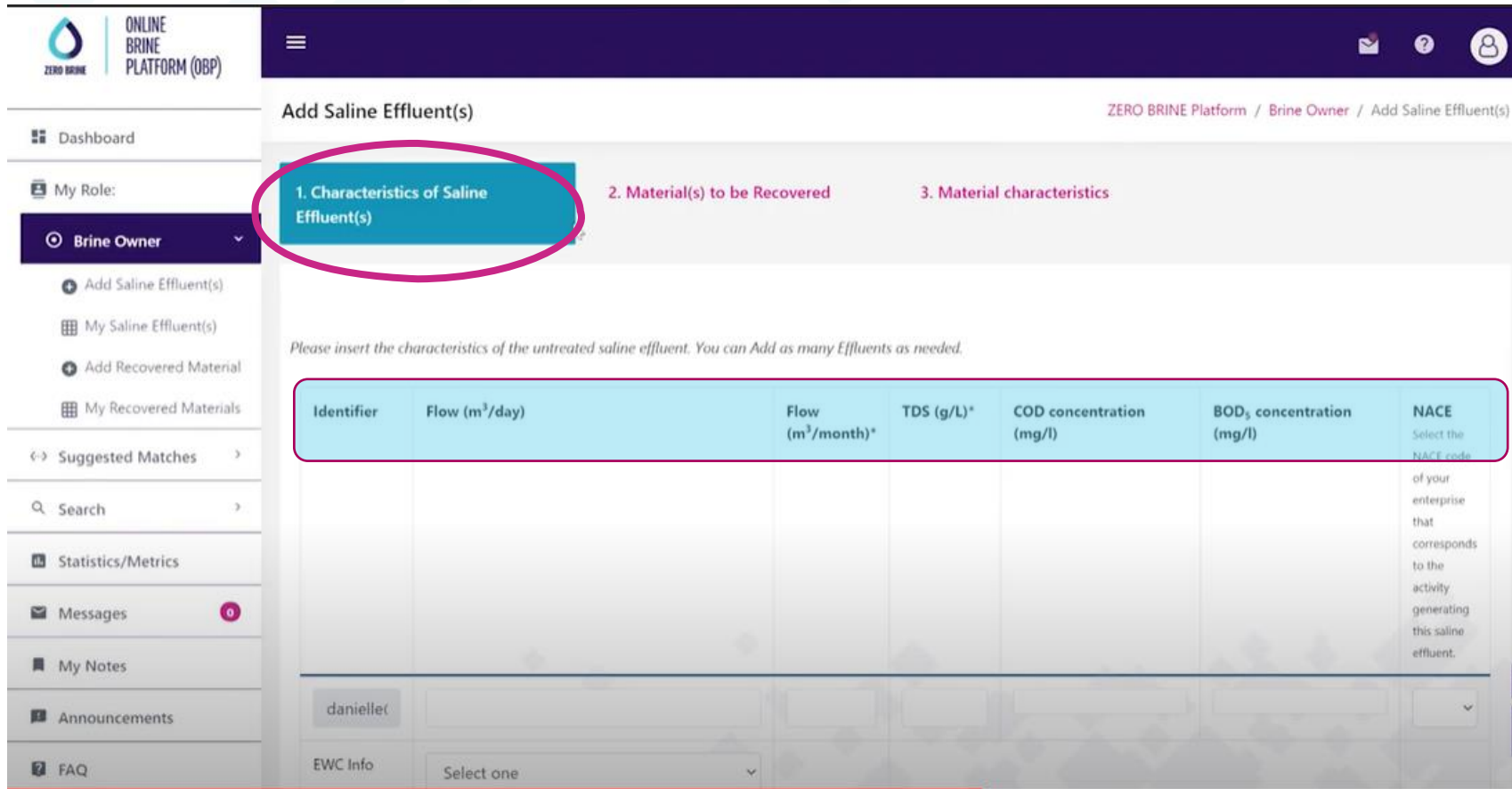


The screenshot displays the 'OBP Role' configuration page in the ZERO BRINE ONLINE BRINE PLATFORM (OBP). The page title is 'OBP Role' and the breadcrumb is 'ZERO BRINE Platform / OBP Role'. The main content area is titled 'USER ROLE' and includes the instruction: 'Please select how you intend to use the OBP. You can have a single or a multiple OBP role.' There are four role options, each with a radio button and an icon:

- Brine Owner** (Icon: Factory with smokestacks): Entity owning saline wastewaters streams. This option is highlighted with a red circle.
- Mineral/Water User** (Icon: Factory with water tap): Entity using minerals or water for different purposes.
- Technology Provider** (Icon: Gears): Entity providing treatment technologies for saline effluents.
- Waste Heat Provider** (Icon: Cooling towers): Entity with available waste heat flow.

An 'Update User' button is located at the bottom left of the role selection area. The left sidebar contains navigation links: Dashboard, My Role, Search, Statistics/Metrics, Messages (with a notification badge), My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project.

Generadores de salmueras



ONLINE BRINE PLATFORM (OBP)

Dashboard

My Role: Brine Owner

- Add Saline Effluent(s)
- My Saline Effluent(s)
- Add Recovered Material
- My Recovered Materials

Suggested Matches

Search

Statistics/Metrics

Messages

My Notes

Announcements

FAQ

Add Saline Effluent(s)

ZERO BRINE Platform / Brine Owner / Add Saline Effluent(s)

1. Characteristics of Saline Effluent(s)

2. Material(s) to be Recovered

3. Material characteristics

Please insert the characteristics of the untreated saline effluent. You can Add as many Effluents as needed.

Identifier	Flow (m ³ /day)	Flow (m ³ /month)*	TDS (g/L)*	COD concentration (mg/l)	BOD ₅ concentration (mg/l)	NACE
daniellec						Select the NACE code of your enterprise that corresponds to the activity generating this saline effluent.
EWC Info	Select one					

¿Qué industrias?

Food industry - fish and shellfish industry (NACE code: C10.2)

Leather industry (NACE code: C15.1)

Food industry - Meat process (NACE code: C10.1)

Non-ferrous metal production (NACE codes: C24.4)

Food industry - Pickling vegetables (NACE code: C10.3)

Oil - Petroleum refinery (NACE code: C19.2)

Food industry -Dairies (NACE code Group: C10.5)

Paper and Pulp Industry (NACE code: C17.1)

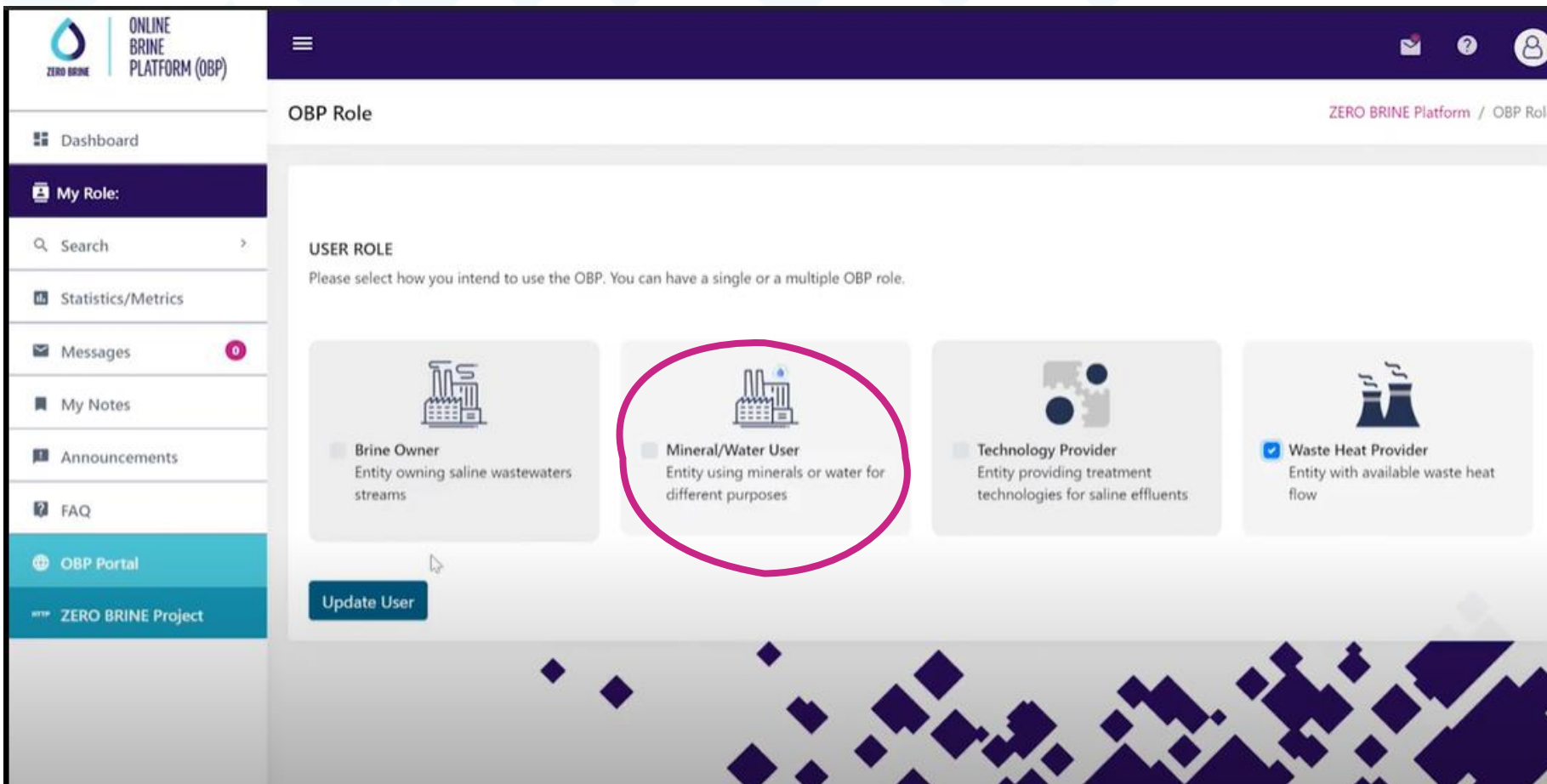
Inorganic Chemical Industry (NACE codes: C 20.13)

Textile industry (NACE codes: C13.3, 13.9)

Iron & Steel Production (NACE codes: C24.1, C24.2, C24.3)

Water treatment (NACE code: E36.0)

Usuarios de minerales y agua



The screenshot displays the 'OBP Role' configuration page in the ZERO BRINE Platform. The interface includes a sidebar with navigation options: Dashboard, My Role, Search, Statistics/Metrics, Messages (0), My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project. The main content area is titled 'OBP Role' and contains a 'USER ROLE' section with the instruction: 'Please select how you intend to use the OBP. You can have a single or a multiple OBP role.' Four role options are presented as cards:

- Brine Owner**
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Entity using minerals or water for different purposes
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Entity providing treatment technologies for saline effluents
- Waste Heat Provider**
Entity with available waste heat flow

An 'Update User' button is located at the bottom of the role selection area.

Minerales de interés en la OBP

$(\text{NH}_4)_2\text{SO}_4$ (Ammonium Sulphate)

$(\text{NH}_4)\text{HCO}_3$ (Ammonium carbonate)

$\text{Ca}(\text{OH})_2$ (Calcium hydroxide)

Ca_2SiO_4 (Dicalcium silicate)

$\text{Ca}_3(\text{PO}_4)_2$ (Tricalcium Bis(phosphate))

CaCl_2 (Calcium Chloride)

CaCO_3 (Calcium Carbonate)

CaHPO_4 (Calcium hydrogen phosphate)

Na_2CO_3 (Sodium Carbonate)

$\text{Na}_2\text{S}_2\text{O}_4$ (Sodium Dithionite)

Na_2SiF_6 (Disodium hexafluorosilicate)

Na_2SiO_3 (Sodium metasilicate)

Na_2SO_4 (Sodium Sulphate (anhydrous))

NaCl (Sodium Chloride)

NaHCO_3 (Sodium hydrogencarbonate)

NaHSO_3 (Sodium Hydrogensulfite)

CaSO_4 (Calcium sulphate)

$\text{Cr}_2(\text{SO}_4)_3$ (Chromium Sulphate)

K_2CO_3 (Potassium carbonate)

KCl (Potassium Chloride)

$\text{Mg}(\text{OH})_2$ (Magnesium hydroxide)

MgCl_2 (Magnesium chloride)

MgSO_4 (Magnesium sulfate)

NaHSO_4 (Sodium Hydrogen Sulfate)

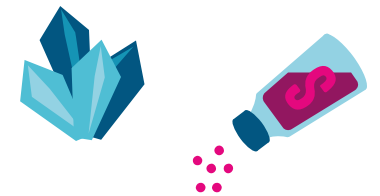
NaNO_2 (Sodium nitrite)

NaNO_3 (Sodium Nitrate)

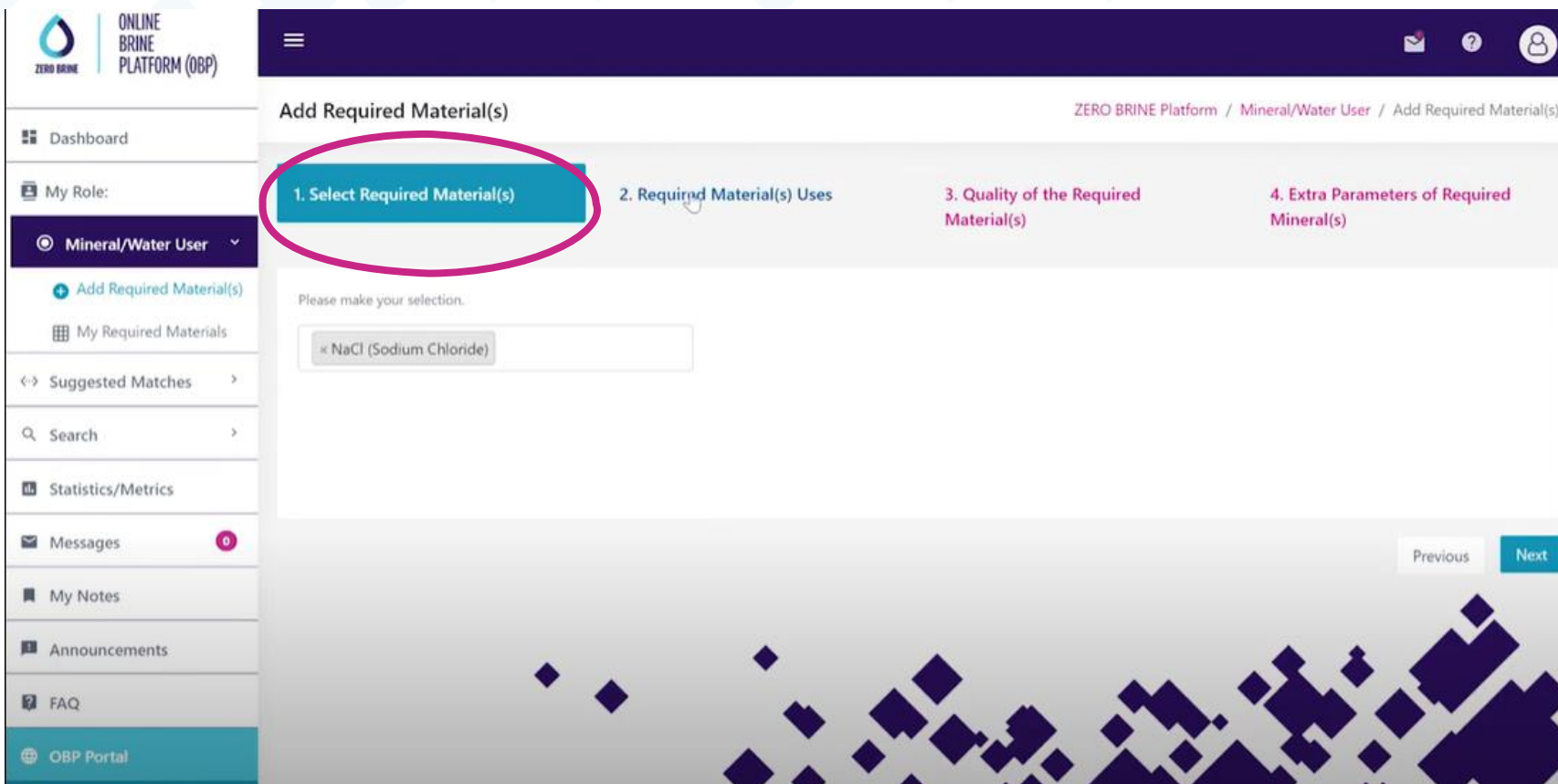
NH_4Cl (Ammonium Chloride)

NH_4NO_3 (Ammonium nitrate)

$\text{Zr}(\text{SO}_4)_2$ (Zirconium Sulphate)

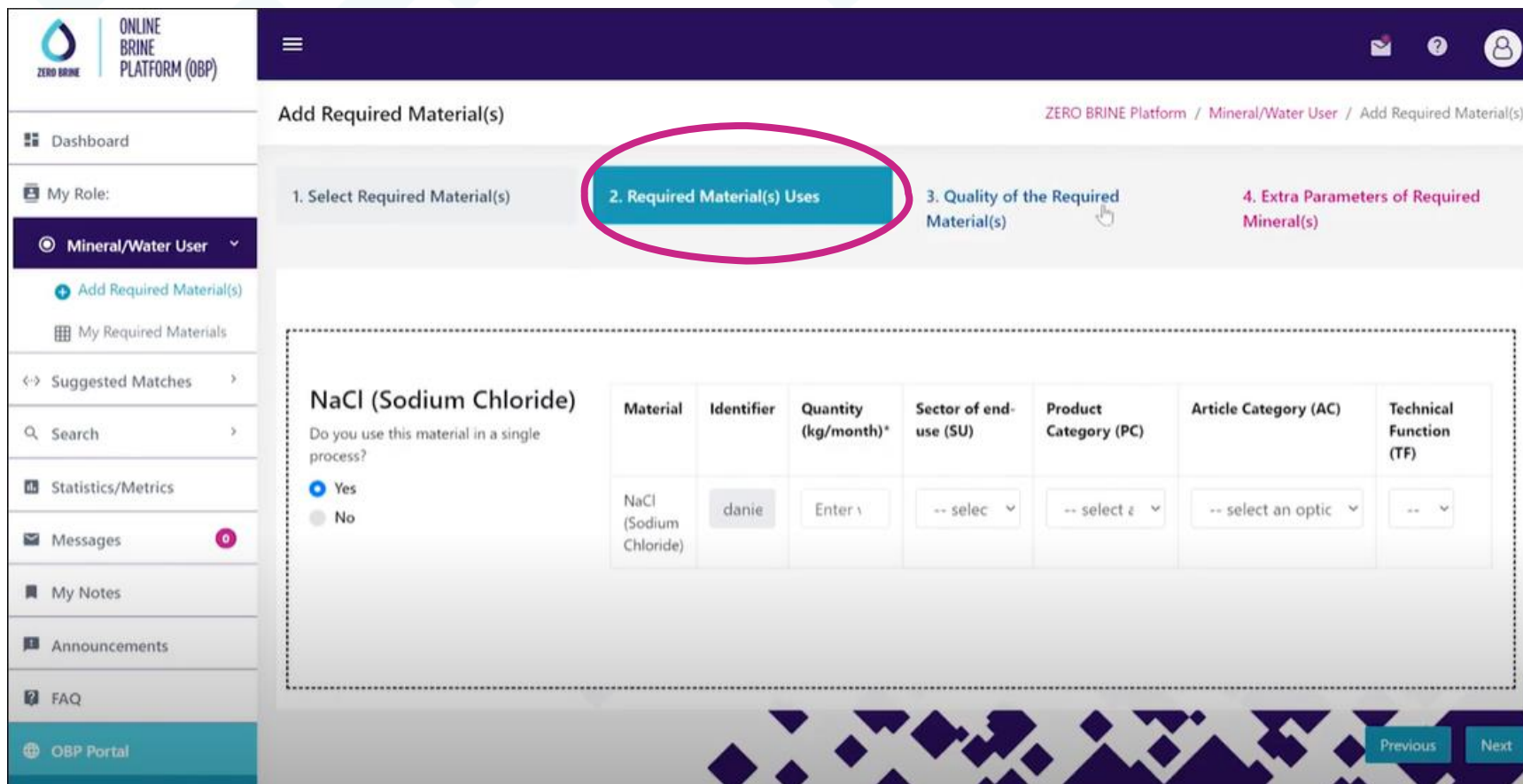


Usuarios de minerales y agua



The screenshot displays the 'Add Required Material(s)' page in the ZERO BRINE ONLINE BRINE PLATFORM (OBP). The page is divided into four main sections: 1. Select Required Material(s) (highlighted with a red circle), 2. Required Material(s) Uses, 3. Quality of the Required Material(s), and 4. Extra Parameters of Required Mineral(s). The first section contains a search bar with the text 'NaCl (Sodium Chloride)' and a 'Next' button. The left sidebar shows the user's role as 'Mineral/Water User' and various navigation options like Dashboard, My Role, My Required Materials, and Messages.

Usuarios de minerales y agua



ONLINE BRINE PLATFORM (OBP)

Dashboard

My Role:

Mineral/Water User

+ Add Required Material(s)

My Required Materials

Suggested Matches

Search

Statistics/Metrics

Messages

My Notes

Announcements

FAQ

OBP Portal

ADD REQUIRED MATERIAL(S)

ZERO BRINE Platform / Mineral/Water User / Add Required Material(s)

1. Select Required Material(s)

2. Required Material(s) Uses

3. Quality of the Required Material(s)

4. Extra Parameters of Required Mineral(s)

NaCl (Sodium Chloride)

Do you use this material in a single process?

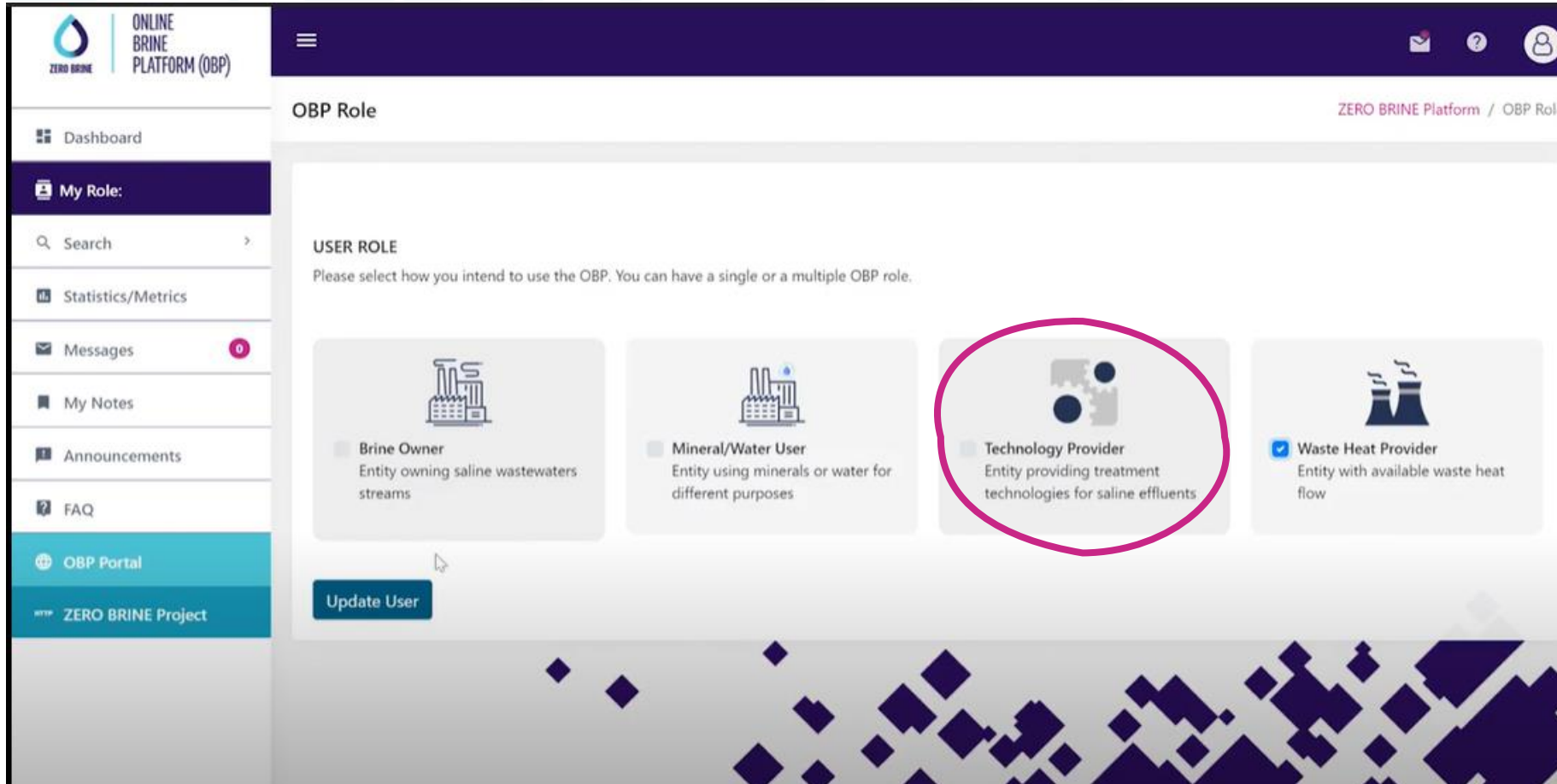
Yes

No

Material	Identifier	Quantity (kg/month)*	Sector of end-use (SU)	Product Category (PC)	Article Category (AC)	Technical Function (TF)
NaCl (Sodium Chloride)	danie	Enter \	-- selec	-- select z	-- select an optic	--

Previous Next

Proveedores de tecnología

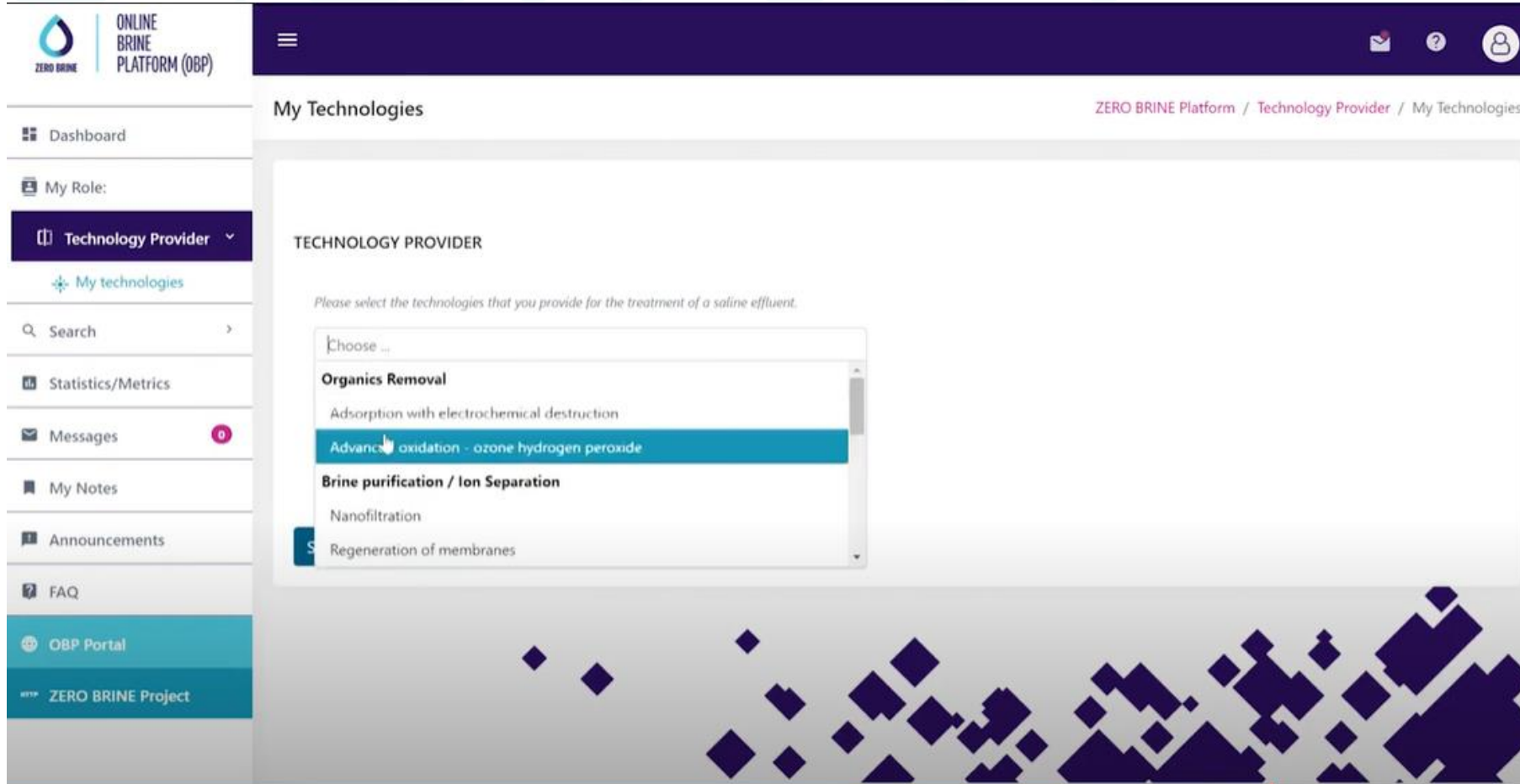


The screenshot displays the 'OBP Role' configuration page in the ZERO BRINE ONLINE BRINE PLATFORM (OBP). The interface includes a sidebar with navigation options: Dashboard, My Role, Search, Statistics/Metrics, Messages (0), My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project. The main content area is titled 'OBP Role' and contains the following information:

- USER ROLE**
Please select how you intend to use the OBP. You can have a single or a multiple OBP role.
- Brine Owner**
Entity owning saline wastewaters streams
- Mineral/Water User**
Entity using minerals or water for different purposes
- Technology Provider** (highlighted with a pink circle)
Entity providing treatment technologies for saline effluents
- Waste Heat Provider** (checked)
Entity with available waste heat flow

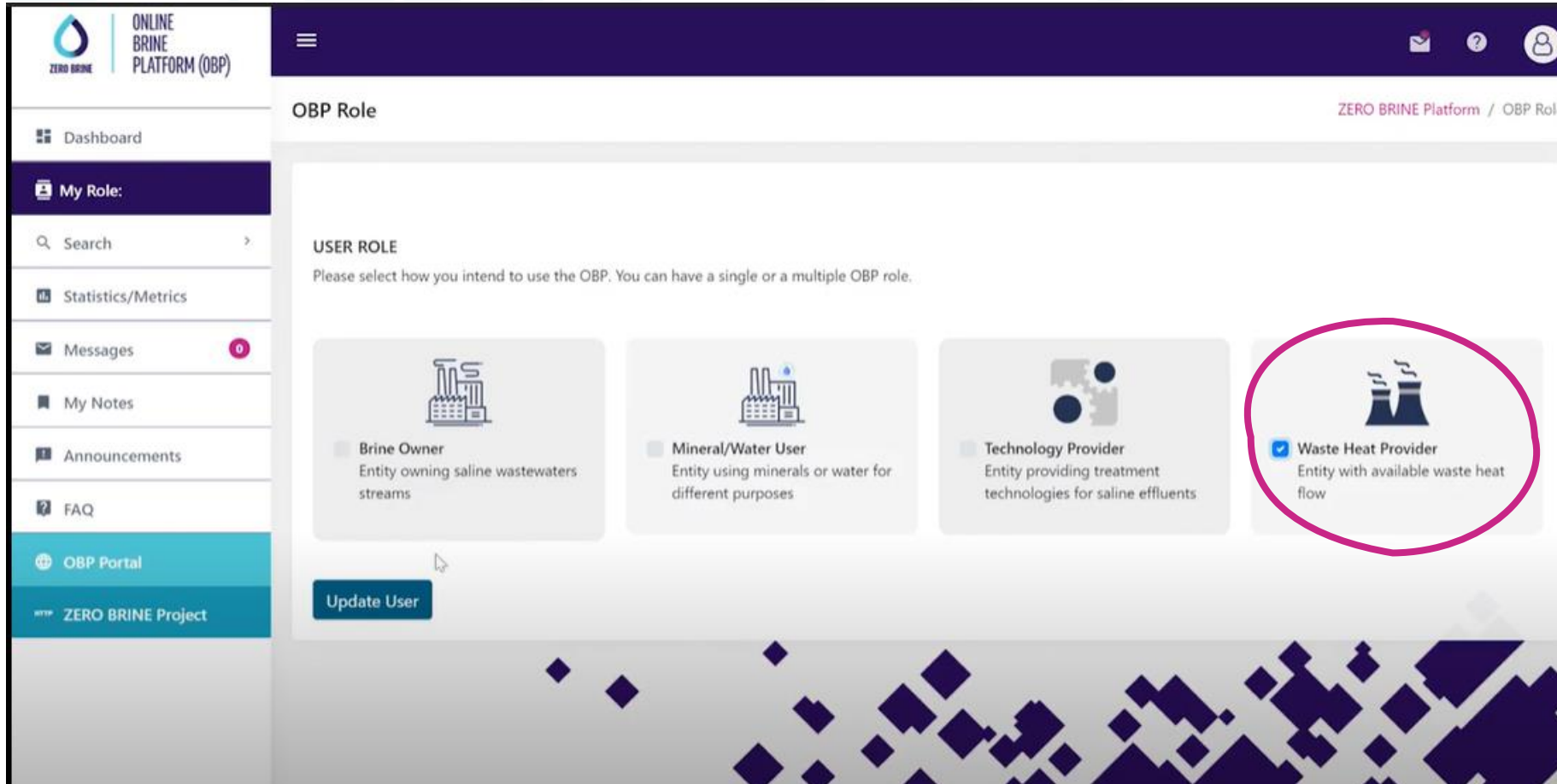
An 'Update User' button is located at the bottom of the role selection area.

Proveedores de tecnología



The screenshot displays the 'My Technologies' page for a Technology Provider in the ZERO BRINE ONLINE BRINE PLATFORM (OBP). The interface includes a sidebar with navigation options: Dashboard, My Role (Technology Provider), My technologies, Search, Statistics/Metrics, Messages (with a notification badge), My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project. The main content area is titled 'TECHNOLOGY PROVIDER' and contains the instruction: 'Please select the technologies that you provide for the treatment of a saline effluent.' Below this is a dropdown menu with the following options: 'Organics Removal' (with sub-items 'Adsorption with electrochemical destruction' and 'Advanced oxidation - ozone hydrogen peroxide'), 'Brine purification / Ion Separation' (with sub-items 'Nanofiltration' and 'Regeneration of membranes'). The 'Advanced oxidation - ozone hydrogen peroxide' option is currently selected.

Proveedores de calor residual

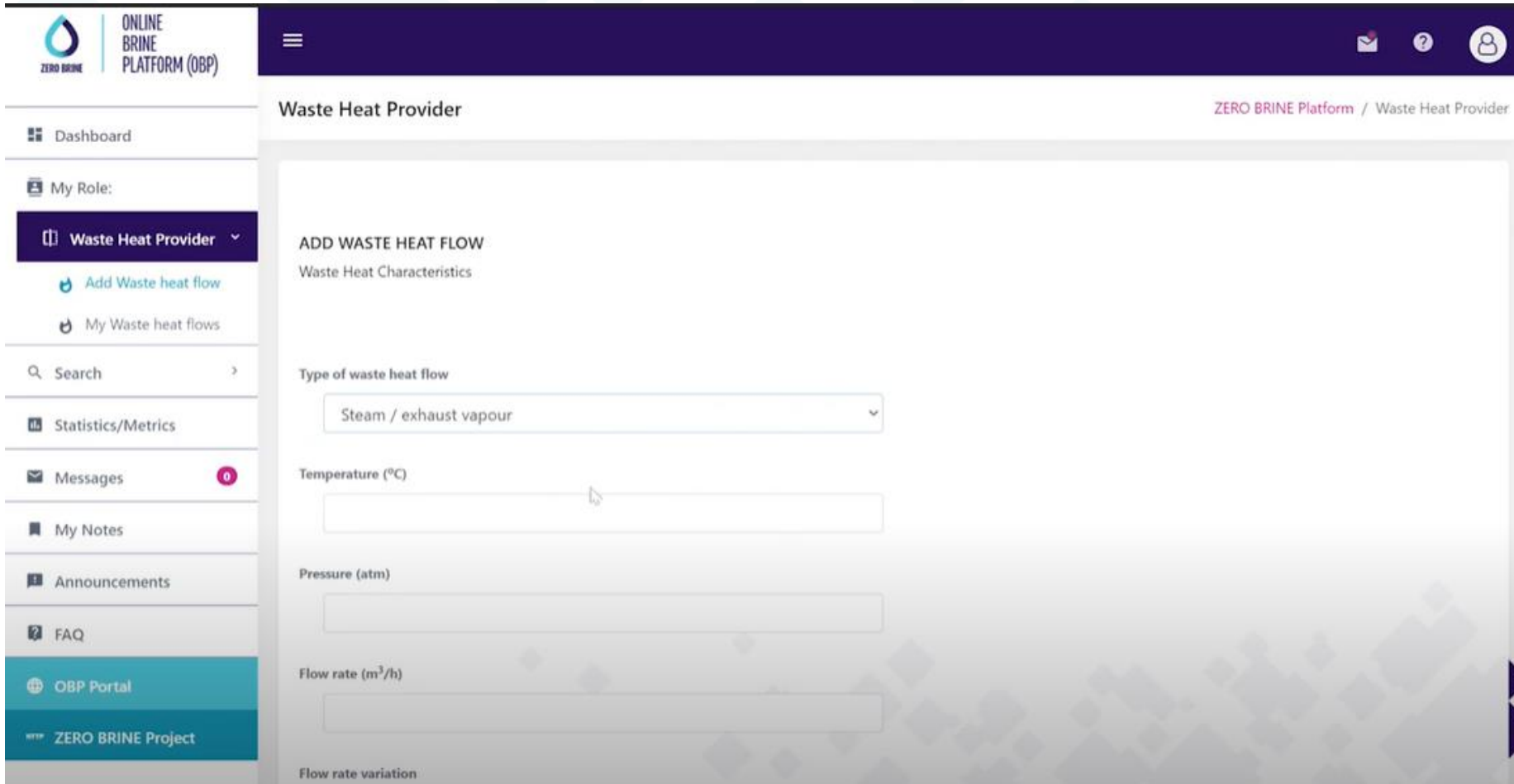


The screenshot displays the 'OBP Role' configuration page in the ZERO BRINE Platform. The interface includes a sidebar with navigation options: Dashboard, My Role, Search, Statistics/Metrics, Messages (0), My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project. The main content area is titled 'OBP Role' and contains a 'USER ROLE' section with the instruction: 'Please select how you intend to use the OBP. You can have a single or a multiple OBP role.' Four role options are presented as cards:

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Entity using minerals or water for different purposes
- Technology Provider**
Entity providing treatment technologies for saline effluents
- Waste Heat Provider**
Entity with available waste heat flow

The 'Waste Heat Provider' card is highlighted with a red circle. An 'Update User' button is located at the bottom of the role selection area.

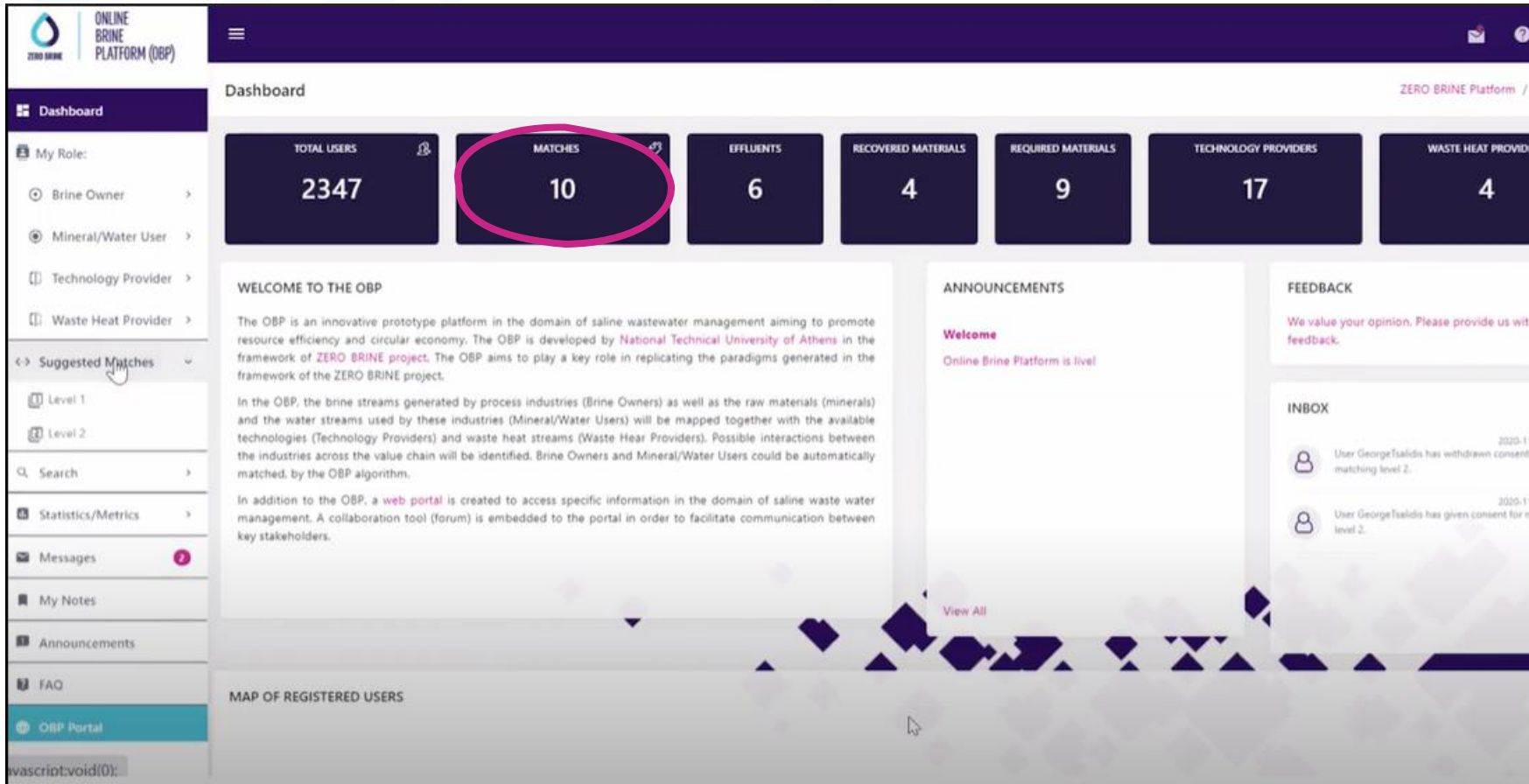
Proveedores de calor residual



The screenshot displays the 'Waste Heat Provider' form within the ZERO BRINE ONLINE BRINE PLATFORM (OBP). The interface includes a sidebar with navigation options such as Dashboard, My Role, Waste Heat Provider (selected), Add Waste heat flow, My Waste heat flows, Search, Statistics/Metrics, Messages, My Notes, Announcements, FAQ, OBP Portal, and ZERO BRINE Project. The main content area is titled 'Waste Heat Provider' and contains the following fields:

- ADD WASTE HEAT FLOW**
- Waste Heat Characteristics**
- Type of waste heat flow**: A dropdown menu with 'Steam / exhaust vapour' selected.
- Temperature (°C)**: An empty input field.
- Pressure (atm)**: An empty input field.
- Flow rate (m³/h)**: An empty input field.
- Flow rate variation**: A label for the next field, which is currently empty.

Buscar sinergias



Dashboard

ZERO BRINE Platform / []

Metric	Value
TOTAL USERS	2347
MATCHES	10
EFFLUENTS	6
RECOVERED MATERIALS	4
REQUIRED MATERIALS	9
TECHNOLOGY PROVIDERS	17
WASTE HEAT PROVIDERS	4

WELCOME TO THE OBP

The OBP is an innovative prototype platform in the domain of saline wastewater management aiming to promote resource efficiency and circular economy. The OBP is developed by *National Technical University of Athens* in the framework of *ZERO BRINE project*. The OBP aims to play a key role in replicating the paradigms generated in the framework of the ZERO BRINE project.

In the OBP, the brine streams generated by process industries (Brine Owners) as well as the raw materials (minerals) and the water streams used by these industries (Mineral/Water Users) will be mapped together with the available technologies (Technology Providers) and waste heat streams (Waste Heat Providers). Possible interactions between the industries across the value chain will be identified. Brine Owners and Mineral/Water Users could be automatically matched, by the OBP algorithm.

In addition to the OBP, a *web portal* is created to access specific information in the domain of saline waste water management. A collaboration tool (forum) is embedded to the portal in order to facilitate communication between key stakeholders.

ANNOUNCEMENTS

Welcome

Online Brine Platform is live!

FEEDBACK

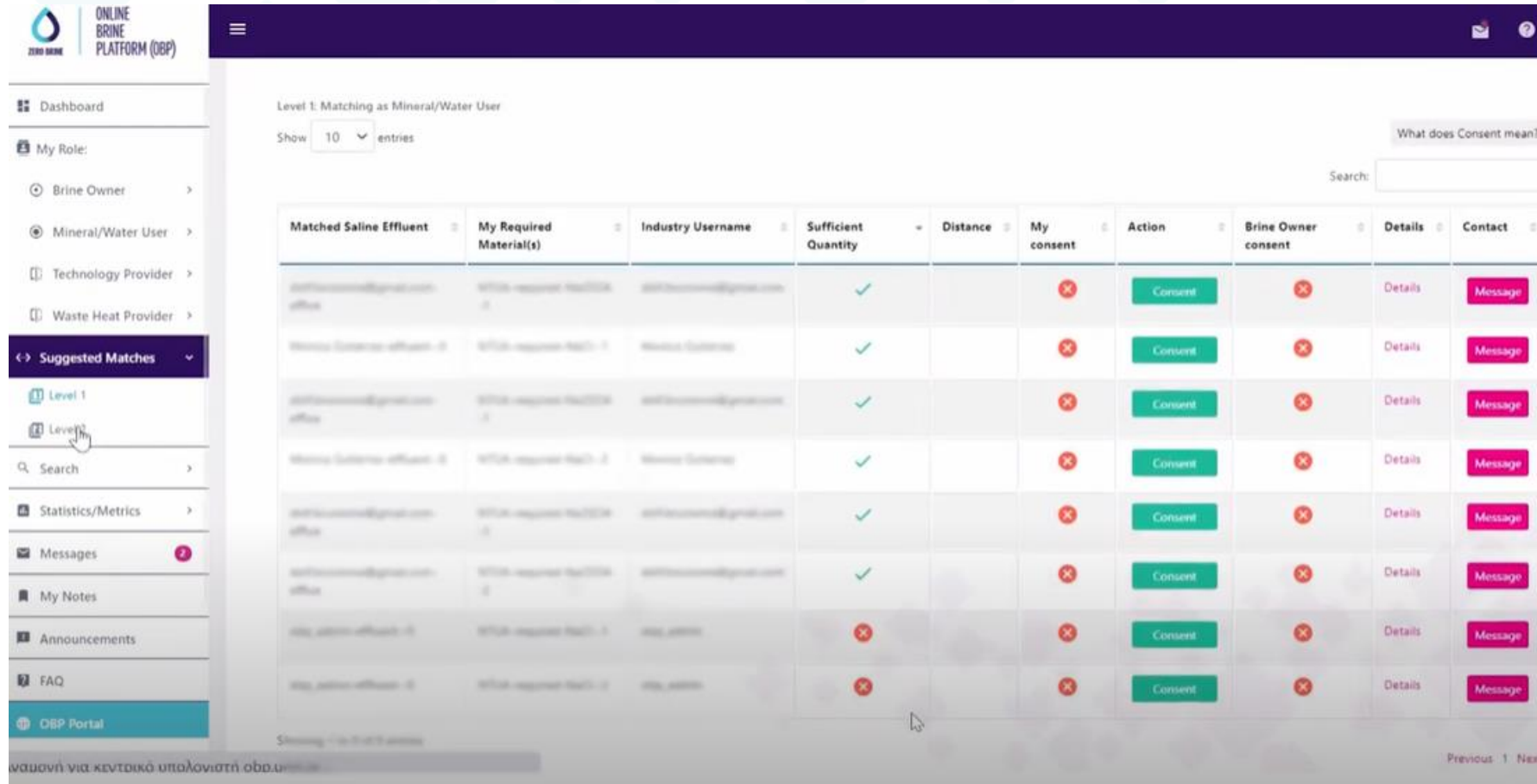
We value your opinion. Please provide us with feedback.

INBOX

- 2020-11-11 User George Tsalidis has withdrawn consent for matching level 2.
- 2020-11-11 User George Tsalidis has given consent for matching level 2.

MAP OF REGISTERED USERS

Buscar sinergias



ONLINE BRINE PLATFORM (OBP)

Level 1: Matching as Mineral/Water User

Show 10 entries

What does Consent mean?

Search:

Matched Saline Effluent	My Required Material(s)	Industry Username	Sufficient Quantity	Distance	My consent	Action	Brine Owner consent	Details	Contact
...	✓		✗	Consent	✗	Details	Message
...	✓		✗	Consent	✗	Details	Message
...	✓		✗	Consent	✗	Details	Message
...	✓		✗	Consent	✗	Details	Message
...	✓		✗	Consent	✗	Details	Message
...	✗		✗	Consent	✗	Details	Message
...	✗		✗	Consent	✗	Details	Message

Showing 1 to 10 of 10 entries

Previous 1 Next

www.zerobrine.eu

Videos



02:52

ZERO BRINE pilot plant in Spain

Jorge Pérez, Head of Research and Development at IQE, presents ZERO BRINE's pilot project in Spain. Working in the silica industry, ZERO BRINE harnesses new and existing technologies to help close the loop on wastewater.



04:12

How to register to the Online Brine Platform

ZERO BRINE is advancing the circular economy and encouraging industrial symbiosis. The Online Brine Platform is where it happens.

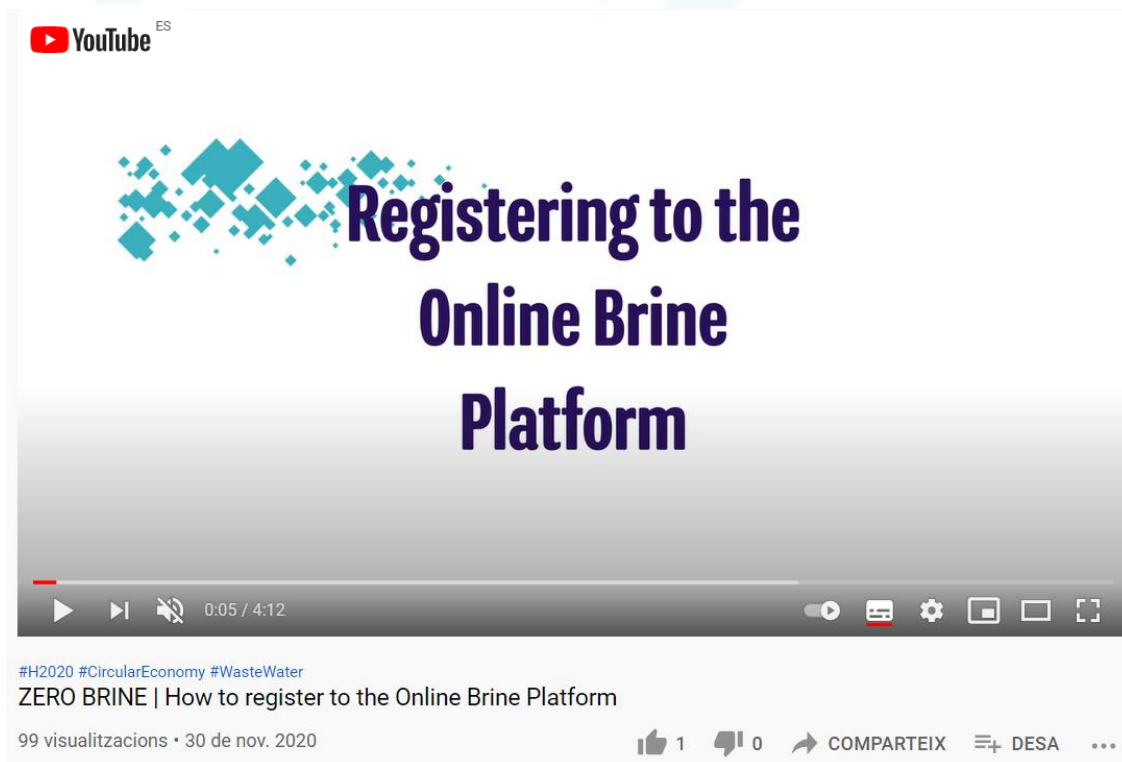


01:10

ZERO BRINE – Driving results and furthering the circular economy

ZERO BRINE is advancing circular economy solutions for Europe. Michiel van Haersma Buma discusses how ZERO BRINE is delivering results and helping Europe meet its climate targets.

Online Brine Platform



Accede al registro



Tutorial paso a paso (EN, subtulado ES)

<https://www.youtube.com/watch?v=-PEwmlnONzQ>



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