



Study Tours on Biogas

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DiBiCoo – Digital Global Biogas Cooperation

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List of Abbreviations

D	Deliverable
T	Task
SC	Steering Committee
AKBOE	Compost & Biogas Association Austria
FVB	German Biogas Association
INTA	National Institute of Agricultural Technology
RDI	Resilience Development Initiative
WIP	WIP Renewable Energies



Executive Summary

The purpose of this deliverable is to describe the five study tour events held by project partners within the DiBiCoo project. The aim of these study tours was to facilitate networking and business cooperation between European, international and local stakeholders in order to stimulate new biogas projects in the partner countries. Participants got a good overview on the framework conditions in partner countries, had the opportunity to meet local decision makers and were introduced to potential biogas project sites.

Due to the COVID pandemic, two of the five study tours were organised virtually. The first study tour was held virtually by the Austrian partner AKBOE on 7 October 2021 on biogas and on 18 November 2021 on gasification. The second study tour was held physically by FVB in Germany on 11 & 12 November 2021, followed by the Steering Committee Meeting. The third study tour was held in hybrid format in South Africa on 22 & 24 March 2022 and was organised by GREENCAPE. The fourth study tour introduced biogas plants in Argentina and was organised by INTA as virtual event on 29 April 2022. The fifth and final study tour was held in Indonesia on 31 May 2022, followed by the Steering Committee Meeting.

Prior to all the events, they were promoted through the channels of the biogas associations and other partners as well as through different social media platforms.

A total of 146 participants attended the study tours live. From these 146, 70 participants attended online, while 76 attended the onsite events. Additionally, the recordings of the virtual study tours were uploaded to the [DiBiCoo Youtube channel](#), where they generated several hundreds of views.

All recordings of the virtual study tours are and will remain available on the YouTube channel to provide knowledge to interested parties even after the DiBiCoo project and thus support a sustainable energy transition.

1. Introduction

1.1 DiBiCoo project

The Digital Global Biogas Cooperation (DiBiCoo) project is part of the EU's Horizon 2020 Societal Challenge 'Secure, clean and efficient energy', under the call 'Market Uptake Support'.

The target countries selected for the DiBiCoo proposal are Argentina, Ethiopia, Ghana, Indonesia, and South Africa. These importing countries have been selected because of the high market potential for bio-gas projects, along with favorable regulatory environment and support schemes.

The DiBiCoo project was targeted at emerging and developing countries who have a high market potential for biogas projects while having a favourable regulatory environment; the selected countries were Argentina, Ethiopia, Ghana, South Africa and Indonesia. Additionally, the project involves partners from Germany, Austria, Belgium and Latvia. The project started in October 2019 with a 33-month timeline and a budget of 3 million Euros. The DiBiCoo project was coordinated by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and implemented by the consortium members.

The overall objective of the project is to prepare markets in developing and emerging countries for the import of sustainable biogas/biomethane technologies from Europe. DiBiCoo aims to mutually benefit importing and exporting countries through facilitating dialogue between European biogas industries and biogas stakeholders or developers from emerging and developing markets. The consortium works to advance knowledge transfer and experience sharing to improve local policies that allow increased market uptake by target countries. The project aims are facilitated through a digital matchmaking platform and classical capacity development mechanisms for improved networking, information sharing, and technical/financial competences. Five demo cases, one each per importing country, were selected for support up to investment stage. Implementation of the DiBiCoo project helped mitigate GHG emissions and increase the share of global renewable energy generation. The project also contributes to the UN Sustainable Development Goals (SDG 7) for 'Affordable and clean energy', among others.

Further information can be found on the DiBiCoo website: www.DiBiCoo.org.

1.2 Objectives of this document

This document summarizes the actions carried out under Task 5.2. Study Tours by the consortium partners AKBOE, FVB, GREENCAPE, INTA and RDI.

In the frame of the DiBiCoo project, five study tours were organised for business delegations, interested stakeholders and project partners to importing and exporting countries. The objective of the study tours was to enable importers to see existing technologies in operation under real life conditions and to learn more about the technologies. Furthermore, it enabled exporters to visit potential biogas markets and to make contact with potential clients and local stakeholders such as planners, farmers, potential operators, and decision makers. The aim was to create more confidence in the new market and give the opportunity to assess concrete project ideas.

The initial plan was to organize the study tours to coincide with renewable energy or agricultural events, conferences and trade fairs. However, due to the COVID pandemic, some study tours were held as virtual or hybrid events. The following study tours were organised:

- The 1st study tour had to be organised as a virtual event by the Austrian project partner AKBOE. The study tour featured biogas plants on 7 October 2021 and gasification on 18 November 2021.
- The 2nd study tour was organised as a physical event and combined the SCM in Germany with the study tour organised by German project partner FVB. The event took place from 11-12 November 2021.
- The 3rd study tour was organised by GreenCape as a hybrid event in South Africa on 22 & 24 March 2022 followed by a matchmaking event.
- The 4th study tour was organised by INTA on 29 April 2022 as a virtual event with videos of several different biogas plants in Argentina.
- The 5th study tour was organised by RDI as a physical event on 31 May 2022.

In conclusion, the organisation of the five study tours for business delegations with the focus on Germany, Austria, Indonesia, South Africa and Argentina was a great achievement of the DiBiCoo project. The study tour with the focus on Argentina was originally not foreseen in the Grant Agreement (GA), but implemented to increase the overall impact, which was fully achieved. Through the knowledge exchange and networking among the study tour participants, new biogas technologies could be introduced, thus increasing the share of renewable energies in the target countries, once implemented. It also contributed to reduce project development efforts of key stakeholders, and to increase the overall knowledge and awareness on biogas.

Some study tours were organised virtually and were streamed through various online channels, which are available even after the lifetime of the project. The virtual study tours were very good in order to reach a broader audience. However, some other study tours were organised as physical events (or in a hybrid format) which increased especially the networking opportunities among the participants. According to the GA, it was expected that more than 60 participants attended the study tours, a target which was fully achieved as 146 participants attended the study tours either virtually or physically.

2. 1st Study Tour 7 October 2021 // 18 November 2021 - Austria

2.1 Introduction

The first study tour was changed to a virtual format as it was not possible for delegates to attend in person because of the pandemic travel restrictions.

The study tour was presented in a 10-minute video featuring three biogas plants and three gasification plants. Two production agencies were used to produce the videos in English & German languages, namely Viennamotion (<https://www.viennamotion.at/>) and ForStory (<https://www.forstory.de/>). The videos were then uploaded to the DiBiCoo YouTube channel followed by two webinars for participants to raise questions directly with plant operators and leading industry experts. The [biogas webinar](#) was held on 7 October 2021 and the [gasification webinar](#) on 18 November 2021. Both webinars were translated to English and the recording are and will continue to be available on the [DibiCoo YouTube channel](#).

2.2 Report on the Study Tour

2.2.1 Public announcement

The upload and release of the final video sequences, as well as date and registration link for each webinar session, were announced and promoted by AKBOE on their Website, Newsletter and social media channels like Facebook, Instagram and LinkedIn and distributed by the other project partners. The promotion was done in different stages. In the first stage, the date was announced, when the videos were first uploaded on the DiBiCoo YouTube channel with a short description of each plant. In the 2nd stage, the upload of the final sequences was announced with a direct link to each video on YouTube. In parallel, the date of the webinar and registration link was released and announced. The 3rd stage of promotion was again a quick reminder to watch the videos before the Webinar, including the links to each video and to the registry for the Webinar. The 4th and last stage of promotion was done after the Webinar has taken place and included a short review on the Webinar as well as again the link to each individual video. Examples of the announcements are listed below.



Figure 1: Announcement of DiBiCoo Virtual Study Tour (AKBOE Website, 1st stage promotion)



Figure 2: Announcement of DiBiCoo Virtual Study Tour (AKBOE Website, 2nd stage promotion)



Figure 3: Announcement of DiBiCoo Virtual Study Tour (AKBOE Newsletter, 3rd stage promotion)



Figure 4: Announcement of DiBiCoo Virtual Study Tour (Instagram, 1st stage promotion)



Figure 5: Announcement of DiBiCoo Virtual Study Tour (Facebook, 4th stage promotion)

2.2.2 Implementation of the Study Tour

The concepts of the systems were assessed, and possible sequence sections considered in advance. A moderation text was then created for each section. The final text was agreed with the plant operator and the planning companies involved. Before each day of shooting, a discussion of the sequences to be filmed was held with the video production agency involved to obtain an approximate schedule and not to forget any sequences. When shooting on site, the moderation text was first recorded together with the respective speaker and then the detailed recordings were made with the help of the system operator. After the detailed shots, close-up shots of the facilities were finally made with the help of a flying drone. The filmed sequences were cut into a video by the production agency after a short consultation and, after several feedback rounds, were finalized and released for upload. A total of 6 different plants

were filmed, three biogas plants and 3 gasification plants. Prior to filming the plant operators/owners had to give their approval for the videos to be taken. The videos were designed to provide high value for participants. The biogas video featured a wide range of feedstock (agricultural by products like straw, liquid and solid organic waste from households and caterers waste and expired food) Both wet and dry fermentation was featured. The gasification video featured three very different gasifier types (under pressure vs overpressure, single stage vs double stage, turnkey vs manually assembled). The following plants were filmed:

1. AVA Augsburg (biogas plant, Germany): Dry fermentation (plug flow fermentation) of municipal organic waste combined with subsequent composting
2. Bruck an der Leitha (biogas plant, Austria): Wet fermentation of organic food waste (kitchen waste, food and beverage industry waste, and expired food)
3. Utzenaich (biogas plant, Austria): Wet fermentation of cash crops, agricultural residues (straw & grass) and manure/slurry
4. Dornbirn (gasification plant, Austria): Two-stage gasification of wood chips combined with production of charcoal fertilizer for agriculture
5. Neumarkt (gasification plant, Austria): Direct-current fixed-bed gasification (downdraft gasification) of wood chips
6. Scheibbs (gasification plant, Austria): Direct-current fixed-bed gasification of wood chips

A few shots of the days of shooting follow:



Figure 6 Shooting of the entrance hall in Augsburg (biogas plant, Germany)



Figure 7: Shooting of the star sieve in Augsburg (biogas plant, Germany)



Figure 8: Shooting in front of the feeding system in Utzenaich (biogasplant, Austria)



Figure 9: Recording of the moderation text in Utzenaich (biogas plant, Austria)



Figure 10: Shooting of the wood chips storage in Dornbirn (gasification plant, Austria)



Figure 11: Recording of the moderation text in Scheibbs (gasification plant, Austria)

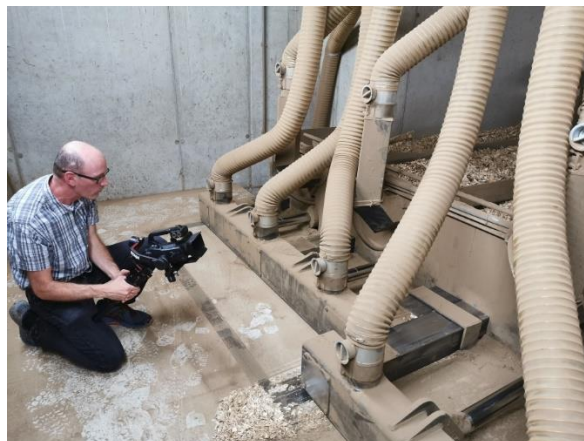


Figure 12: Shooting of the drying system in Scheibbs (gasification plant, Austria)

The webinars were held on 7th of October and 18th of November. At each webinar the planning companies or operators of the plants where available to answer specific questions of the participants. Although there was no experience with such a format, at the end it was successfully. Because the videos were uploaded several weeks upfront the webinar, participants had the possibility to watch them beforehand and write down their specific questions. During the webinar we could experience an interesting discussion between plant operators and participants. We developed icebreaker questions to relax and stimulate the audience.



Figure 13 Impressions of the first virtual study tour on biogas held at 7th of October 2021

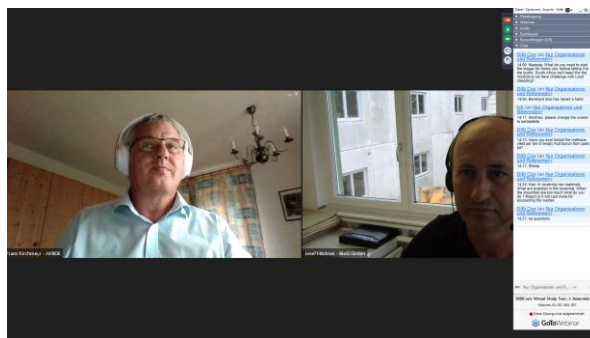


Figure 14 Impressions of the first virtual study tour on biogas held at 7th of October 2021

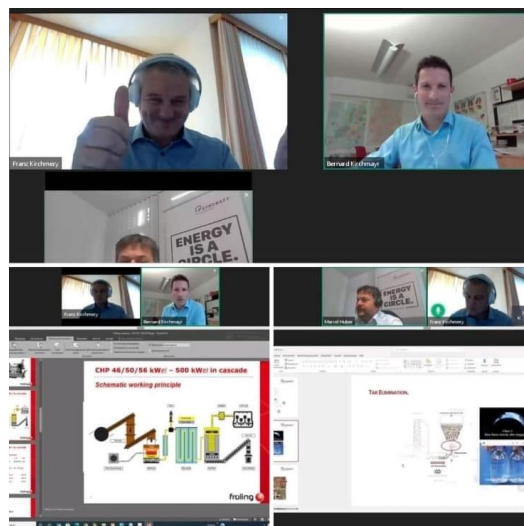


Figure 15 Impressions of the first virtual study tour on biogas held at 7th of October 2021

3. 2nd Study Tour 11-12 November 2021 - Germany

3.1 Introduction

WIP and the German Biogas Association (FvB) were very happy to organize and implement a physical biogas study tour in Germany for the DiBiCoo project partners and for invited biogas stakeholders. This was especially challenging because of the difficult framework conditions and uncertainties due to the COVID situation in Germany.

The German study tour was organised not only for the DiBiCoo Team but also for a business delegation from the potential importing partner countries. Two external stakeholders from Ethiopia and four from Ghana attended the study tour. The tour enabled the DiBiCoo team, importers and local stakeholders such as planners, farmers, and potential operators including decision makers to see existing biogas plants in operation under real life conditions. The participants had the chance to learn more about the technologies and to get in contact with experienced German Biogas plant operators. This creates more confidence in biogas plants and gives the opportunity to exchange and assess the concrete project ideas. Fortunately, some of the project developers of the DiBiCoo demo projects attended of the study tour.

3.2 Report on the Study Tour

3.2.1 Public announcement

We announced the German Study Tour by informing the DiBiCoo Project Partners and Steering Committee Members via E-Mail. In order to plan everything, we especially asked our project partners to contact the local stakeholders in the DiBiCoo target countries and to confirm their participation.

3.2.2 Implementation of the Study Tour

The Study Tour was implemented in two days, on 11 and 12 November 2021. In total, four biogas plants were visited in the surroundings of Munich during the two days. The site visits offered totally different biogas technologies: waste digestion plant, agricultural biogas plant, upgrading of biogas to biomethane and digestate upgrading to organic fertilizer.

The study tour was launched with a “welcome workshop” at the Münchner Aids-Hilfe e.V. in Munich, Germany with an introduction of the German Study Tour by the organizers. The workshop included the project partners and external stakeholders with focus on the demo and follower cases. After a short introduction and presentation of the DiBiCoo project, 6 presentations were held from the external stakeholders from the DiBiCoo target countries on the demo/follower projects and activities followed by discussions on the status of the demo and follower cases.



Figure 16 Impressions from the study tour in Germany



Figure 17 Impressions from the study tour in Germany

After the workshop we visited the first site at **HÖGL Kompost- und Recycling-GmbH**. The head of the dedicated waste digestion biogas plant gave a presentation about the company, the family business, and the biogas plant. Afterwards she showed the participants around the biogas plant. This biogas plant mainly treats regional biowaste such as from household and supermarket (expired food) waste. Högl operates its own biogas plant for the treatment of the biowaste. In the digester, the biowaste is fermented under anaerobically to produce biogas. The gas is converted into electricity and heat in the connected combined heat and power plant (CHP), using some of the electricity to run the biogas plant. However, about 75 per cent of the electricity produced is fed into the public grid. In this way they contribute directly to climate protection because the electricity generated from biogas is exclusively renewable energy and replaces fossil energy. Moreover, the liquid fermentation product (called digestate) is turned into a high-quality organic fertiliser, which is subject to the strict quality controls of the independent German quality association for fermentation products.



Figure 18 Impressions from the study tour in Germany



Figure 19 Impressions from the study tour in Germany

The second biogas plant visited was **Gut Karlshof** owned by the city of Munich. Gut Karlshof is the only estate in the city of Munich with a biogas plant. It is known for its ox breeding (with around 580 animals), which supplies the ox roast at the famous Oktoberfest. The biogas plant was built in 1999, one of the first Munich plants, by the company agriKomp. With this ground-breaking step, the estate management wanted to contribute to environmentally friendly energy production and make consistent use of the biomass produced. In 2008, the output of the combined heat and power plant (CHP) was increased to 250 kWe with a new engine. One year later, the plant was extended by a second CHP unit (265 kWe with an exhaust gas turbine). It generates electricity which is fed into the German power grid. The agricultural biogas plant is fed with manure and slurry from the farm's own oxen (about 8-10 tonnes per day) and a substrate mix of silage maize (60%) and grass (40%). The waste heat produced is used to heat the estate with 520 m² of living space as well as a new drying hall for grain and wood chips.



Figure 20 Impressions from the study tour in Germany



Figure 21 Impressions from the study tour in Germany

Finally, the two biogas plants of **Eggertshof Verwertung GmbH** were visited. One plant uses agricultural residues like manure, feed leftovers and also co-fermentation feedstocks like fat separator content, fruit and vegetable residues from catering and organic wastes from the food industry (dairy sludge & expired food). It also has an innovative evaporative digestate treatment unit (using the waste heat from the CHP unit). This significantly reduces the need for storage and transport of the digestate.

This plant has also the facility to upgrade the biogas to biomethane quality. In the upgrading plant (amine scrubbing process), an alkaline aqueous solution, which can absorb acid gases, separates the CO₂ and raises the methane content in the biogas to over 90 %. Since 2011 the biogas is purified to natural gas quality and pressed into the gas network of the city utility of Munich.

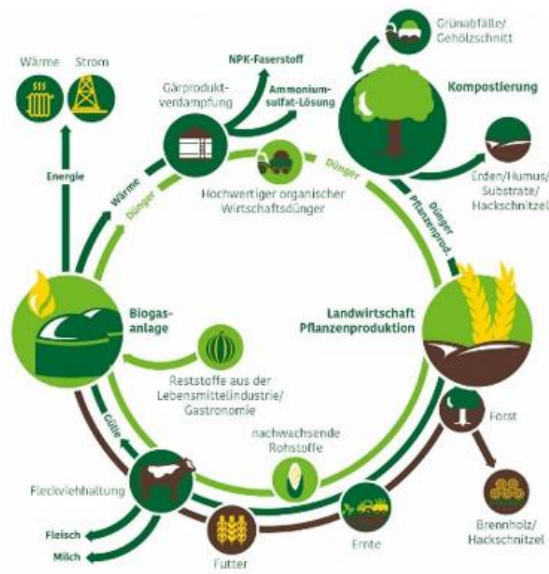


Figure 22 Impressions from the study tour in Germany



Figure 23 Impressions from the study tour in Germany

4. 3rd Study Tour 22 & 24 March 2022 – South Africa

4.1 Introduction

The 3rd study tour for the DiBiCoo project was hosted in South Africa on 22 & 24 March 2022 within the Gauteng and Western Cape provinces respectively. The study tour was arranged for business delegations, interested stakeholders and project partners looking to gain insights and learnings from existing biogas project sites within the developing biogas market of South Africa. This provided insight to stakeholders from developing and developed biogas markets to see existing technologies in operation under real life conditions and to learn more about challenges and barriers that were overcome to establish these projects.

The programme for the South African based study tour can be seen below. The study tour was delivered in a hybrid format where in-person attendees travelled to biogas plants for an on-site tour and virtual participants were able to view a live stream of the tour on the Enlit Africa swapcard platform.

4.2 Report on the Study Tour

4.2.1 Public announcement

The promotion of the South African study tour was delivered in two ways:

1. For in-person participants
2. For virtual participants

Due to South Africa still maintaining a level of travel restrictions in March 2022, there was a limited number of participants, maximum of 30 participants, that could be accommodated for in-person attendance. As a result, potential in-person attendees were identified through consortium partners.

With regards to promoting to the virtual participants, a combination of emails and website newsletters were used to announce the study tour within the GreenCape member's network. The information with regards to the study tour shared with DiBiCoo consortium partners as well.

In addition, the service provider (Vuka Group) that was procured to assist with the logistics and live streaming support services on the Enlit Africa swapcard platform provided social media posts on LinkedIn and within the Enlit Africa member's network. Three short one minute promotional videos were created providing details on the activities within the study tour and these videos were used in the Enlit Africa LinkedIn account posts to promote the study tour. See samples of these posts below.

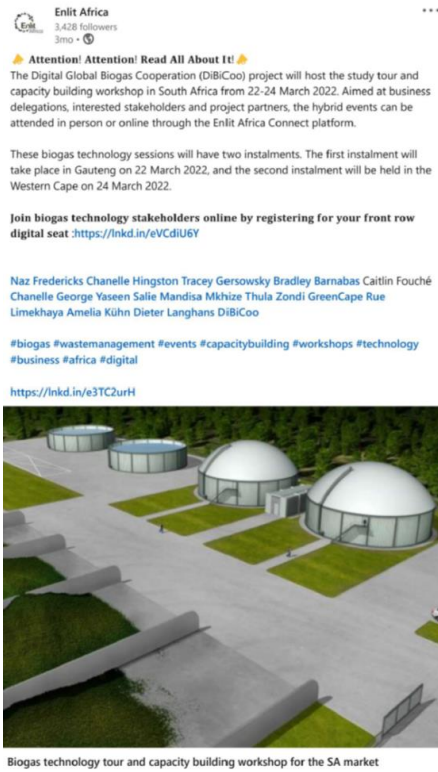


Figure 24 Promotional activities by GreenCape

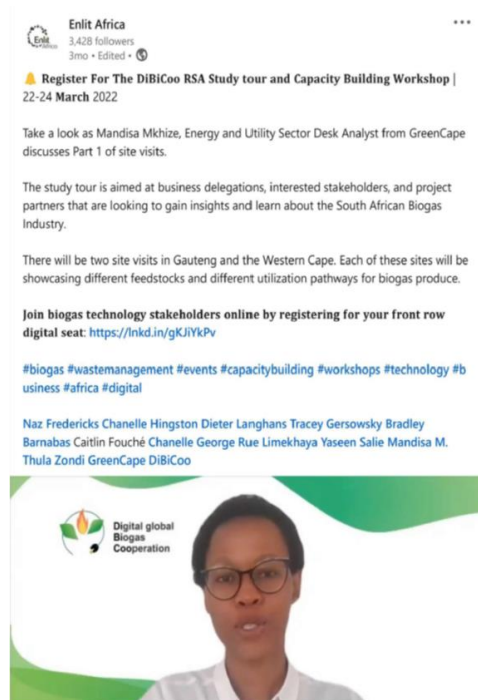


Figure 25 Promotional activities by GreenCape

4.2.2 Implementation of the Study Tour

The South African study tour was implemented within Gauteng province on 22 March 2022 and the Western Cape province on 24 March 2022. A total of four biogas plant sites were visited, 2 in each province and each of the site visits were streamed live on the Enlit Africa swapcard platform.

Within Gauteng, the two sites that were visited were the Bronkhorstspruit Biogas Project in Tshwane and Riverside Piggeries in Pretoria. The site visit for Bronkhorstspruit Biogas Project (Figure 26 and Figure 27) was conducted by the Bio2Watt team. The plant is located on the Beefcor livestock farm and processes the farm's cattle manure as a feedstock along with agricultural and industrial residues. The biogas produced is used produce electricity that is utilised by an automotive manufacturer within the Gauteng province. The installed capacity of the plant is 4.6MW.



Figure 26: Bronkhorstspruit Biogas Project



Figure 27: Bronkhorstspruit Biogas Project 2

The second site visited in Gauteng was located at Riverside Piggeries located in Pretoria (Figure 28) and was conducted by Logical Waste team. The site has a lagoon digester installed that uses the manure slurry from the piggery to produce biogas. The biogas will be used to produce electricity and heat which will be utilised by the piggery to reduce their energy demand.



Figure 28: Riverside Piggeries

Within Western Cape, the two sites that were visited were the Distell & Brenn-O-Kem Water Treatment Facility in Worcester and New Horizons Energy site in Sands Industria. Both site visits in Western Cape were conducted by the Tecrover team. Distell & Brenn-O-Kem Water Treatment Facility (Figure 29) was initially designed to treat the wastewater effluents produced by Distell and Brenn-O-Kem as an initial project stage. The second phase of the project will be to valorise the biogas produced for either electricity generation and/or biomethane upgrading.



Figure 29: Distell & Brenn-O-Kem Water Treatment Facility

The second site visited in Western Cape was the New Horizons Energy facility (Figure 30). The New Horizons Energy facility was designed and constructed to valorise 500-600 tonnes per day of municipal solid waste that was expected to consist of 200 tonnes of organic waste suitable for biogas production. The biogas produced is to be upgraded to biomethane and bio-CO₂. The New Horizons Energy is currently not operated due to many design issues and is currently being re-evaluated so that its operations and business case becomes more viable and efficient.



Figure 30: New Horizons Energy Facility

A networking dinner was provided for the in-person attendees in both Gauteng and Western Cape.

A total of **29 participants** attended the South African study tour in person with 25 attending the sites in Gauteng and 28 attending the sites in Western Cape.

Out of 128 registrants, there were **22** participants who attended the virtual study tour live on the Enlit Africa swapcard platform.

5. 4th Study Tour 29 April 2022 - Argentina

5.1 Introduction

Due to the particular circumstances derived from the COVID pandemic a new visit strategy was developed in order to fulfil the goal of giving stakeholders the possibility of visiting different type of plants in Europe and other countries.

In Argentina five different plants were selected according to the feedstock and type of agriculture or agroindustry facilities. The plants are in three different provinces, a considerable distance from each other.

A professional team was contracted to obtain a complete coverage in image and sound of the different key parts of the visited plants. The goal was to maintain as close as possible the experience of visiting all the parts of the plants and getting the technical explanations from the technical staff in charge of the sections.

Till the date of this report a total of 3256 visits were registered to Argentine plants in YouTube platform. This was the result of a continuous promotion of the visits through different social media networks (LinkedIn, Twitter, wup).

The visit videos were produced in Spanish and English for international visitors to see how biogas technology is being implemented in Argentina. A total of 10 videos were uploaded in [DiBiCoo YouTube channel](#) and a direct link was included on the DiBiCoo website landing page.

A short and comprehensive video covering all the visits in English and Spanish was prepared and uploaded to DiBiCoo platform. This video was also presented at the webinar.

A special workshop was held on 27 April 2022 to allow participant to direct questions at the plant operators and to share their experience in plant start-up and operations. The workshop was recorded and in English and Spanish for uploading.

5.2 Report on the Study Tour

5.2.1 Implementation of the Study Tour

Five plants were visited recording all parts of each facility to explain in-depth the process of biogas production using different feedstocks sourced from farms and industry.

The final versions in English and Spanish were uploaded on the DiBiCoo website and YouTube channel as well as being actively promoted on social media channels.

Features Plants:

ADECOAGRO	Biogas from dairy waste
SEED ENERGY	Biogas from corn seed industry residues
ACA YANQUETRUZ	Biogas from pig residues and corn silo
TIGONBU	Biogas from feedlot residues corn silo and ethanol mini-distillery
BIOELECTRICA	Biogas from waste from a biorefinery of ethanol and recycled oils

According to the latest numbers at the time of writing this report 3256 people have watched the videos of the Argentine biogas plants which could never have been achieved in a physical format.

A specific workshop was organized to give visitors to have a direct contact with the plants operators and ask specific questions

A total of 37 persons registered and 22 attended the meeting.

Principal Conclusions:

The meeting started with a general presentation and a summary video of all the visits done by DiBiCoo in Argentina. After presenting the participants there were several rounds of questions focusing on the principal interest of the participants that made their question in a preliminary form and using the zoom chat function.

A total of 25 question were answered covering key point of plant operations. The operators were very generous sharing all their experiences and experimental results of trials. Also, important failure experiences and how they were overcome were also presented.

A final round of conclusions was presented whereby each participant summarized their experience with biogas systems, the challenges they are facing and the opportunities opening up from different by products such as digestate.

The meeting was recorded in Spanish which was then uploaded with English subtitles in order to give the opportunity to more people to watch it.



Figure 31 Impressions of the virtual study tour



Figure 32 Impressions of the virtual study tour

In June 2022 an additional Trade Mission for Argentinian stakeholder was conducted in Northern Italy. During the four days, Argentinian buyers met and connected with Italian technology providers and users to explore first-hand opportunities. LCBA and DiBiCoo's aim is to promote European Greentech among Argentinian businesses and facilitate commercial agreements and knowledge transfer projects.

6. 5th Study Tour 31 May 2022 – Indonesia

6.1 Introduction

The study tour in Indonesia aimed to facilitate local stakeholders, the DiBiCoo consortium, and also the EU technology provider to take a closer look at the biogas plants operating in Indonesia—knowing the characteristics of feedstock, capacity, utilization, and the challenges they face thus sharing experiences and take away the lessons learned. Initially, the study tour in Indonesia was planned to be held online because of COVID travel restrictions. However, of the travel restrictions were lifted in time for RDI to arrange an in-person study tour starting on 30 May. Lampung, one of the provinces with the best plantation potential in Indonesia, was chosen as the location for the study tour. From the size of the plantation area, there is also the potential for agro-industry waste for biogas plants. Three biogas plants located in Central and East Lampung were selected, namely the Great Giant Pineapple (GGP) Biogas Plant, the Hamparan Project GREE Indonesia, and the PD Spirit Jaya Biogas Plant.

6.2 Report on the Study Tour

6.2.1 Public announcement

The Study Tour Indonesia targeted participants from local biogas stakeholders, European biogas stakeholders, stakeholder from target countries, and consortium partners.

The study tour had to be limited to 20 participants because of the COVID restrictions imposed by the plantations. The bulk of the participants was from Europe and consortium members.

The invitations distributed via email mainly by RDI and EBA partners. It was also included in a series of matchmaking events, with the following contents:



Dear EBA members,

The DiBiCoo EU project is organizing a **Biogas Study Tour and Matchmaking Event in Indonesia**. This event will be the opportunity to gather with all key players and decision-makers from the biogas sector, agro-product related, F&B and other related industries. It will also be the occasion to share latest project ideas, products, technologies, and experiences in developing more business networks. Please find attached the short profile of the biogas site.

The Study Tour and Matchmaking Event will be conducted on **30-31 May 2022** in Lampung and Bandung, Indonesia. Have a look at the agenda [here](#) and [register via this link](#). Flight an accommodation can be covered by EBA on a first come first served basis.

Any questions? Contact Nadya Pranindita at nadya.pranindita@rdi.or.id or Maria Putri at maria.putri@rdi.or.id

About DiBiCoo

This EU project facilitates collaboration between European biogas industries & stakeholders from emerging and developing markets through the development and application of innovative digital and non-digital support tools, knowledge transfer and capacity building.

Best regards,
The EBA Secretariat
www.euroseanbiogas.eu
Renewable Enerov House



Figure 33 Promotional emails by EBA partner to European biogas stakeholders

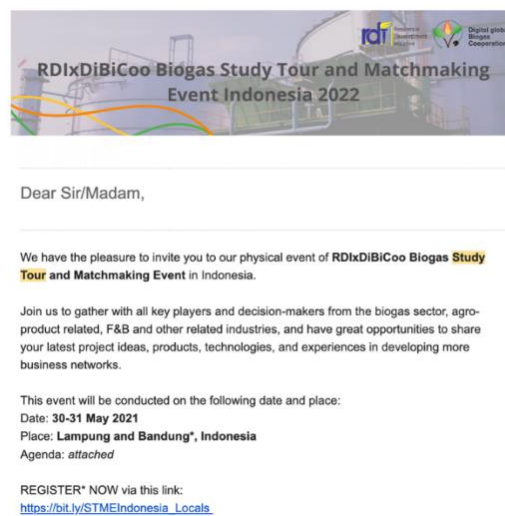


Figure 34 Promotional emails by RDI to Indonesian biogas stakeholders

6.2.2 Implementation of the Study Tour

The implementation of the study tour was in three stages: pre-event, implementation, and post-event. The pre-event started a month before the implementation and consisted of engagement activities with biogas plant owners or developers, distributing invitations, and preparing information/guidelines for international participants. As explained before, three biogas plants were chosen as the location of the visit based on the type of technology, capacity, and the unique character of the feedstock.

Profile of three biogas plants visited:

Great Giant Pineapple

Great Giant Pineapple Company is the third largest pineapple industry in the world, located in Lampung, Indonesia. Every day 2500 tons (on average) of pineapples are processed into canned pineapple and juice for export markets to more than 63 countries from 5 continents. This production process produces about 5,000 cubic meters of liquid waste every day in addition to solid waste. Liquid waste with fermentation technology produces biogas, which is used as a substitute for fossil fuels, and is currently able to replace 30% of coal fuel. Currently GGP Company places a pattern of 30%:40%:50%, reducing the use of fossil fuels by 30% and replacing them with renewable energy; reducing the use of inorganic fertilizers by 40%, and increasing product and quality by 50%.

PD Semangat Jaya

PD Semangat Jaya's tapioca flour processing factory is located in Bangun Sari Village, Lampung. Currently the factory has been able to export tapioca flour every day to all regions on Java Island. In 2008, the Ministry of Energy and Mineral Resources (MEMR) and Lampung State University (UNILA) conducted a study to convert tapioca processing waste into biogas. The biogas from this research was initially only used to supply biogas for residents around the factory for cooking purposes. Currently, biogas is not used for household purposes only, but can already supply the biogas needs of the factory. Biogas is also used to process corn into corn-starch.

Hamparan Project GREE

The Hamparan Project is a partnership between GREE Energy and a large tapioca starch manufacturer in Central Lampung, Sumatra, Indonesia. The project treats the wastewater of a food factory producing tapioca flour to generate biogas. The biogas will be purified and valorized as electricity. With an installed capacity of 3 MW, Hamparan is one of the largest biogas-to-energy projects in Indonesia to date. The Hamparan project is expected to produce 18 GWh of electricity per year exported to the electricity grid of PLN and supply 19 villages with clean and reliable energy in Lampung Tengah, Sumatra, Indonesia. This is enough to provide electricity for more than 37,000 people.

RDI team, as organizer, provided updates assistance before delegates departed to Indonesia which included the agenda, suggested travel itinerary trip, the latest information regarding visa, vaccine, and PCR regulation, as well as other points that needed to be considered before travel. International participant guideline can be accessed [here](#).

On the day of implementation, the study tour began with a welcoming dinner and short briefing at the Batiqa Hotel, Lampung on 29 May. In addition to the study tour participants, representatives of the Lampung regional energy board were also invited.



Figure 35 Welcoming dinner and short briefing Study Tour Lampung



Figure 36 Site visit to Great Giant Pineapple

The field visit commenced on the second day. Due to restrictions on the number of visitors at some biogas sites, participants were divided into two groups and each group visited a different biogas site.



Figure 37 Site visit to PD Semangat Jaya



Figure 38 Site visit to Hamparan Project GREE

The second site visited was at the Hamparan Project GREE followed by the closing dinner at the hotel and briefing for the trip back to Bandung in the next day.

7. DiBiCoo Consortium Partners

Coordinator



Partners from exporting countries



Partners from importing countries





Digital global Biogas Cooperation

Project website: www.DiBiCoo.org

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