



Annual Environmental Report (AER) 2021

Company Name: Timoleague Agri Gen Ltd

Licence Number: P0986-01

Address: Barryshall, Timoleague, Bandon, County Cork

Class of Activity¹: Class 11.4 (B) + (C)

¹ See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities² of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities.
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

- 1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

² See Appendix I

- 2) Some documents³ are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the <http://www.epa.ie/licensing/> or <http://www.epa.ie/enforcement/> pages of the EPA website.
- 3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See <http://www.epa.ie/about/contactus/> for contact details.

³ This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

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Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, an international unit of energy measurement.
Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.

Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Resource	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.
Storm Water	Rain water run-off from roof and non-process areas.

Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Michael Sweeney Managing Director, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here



1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

Timoleague Agri Gen Limited (TAG) is a green field anaerobic digestion plant licenced to accept 48'500 tonnes per annum which comprises of infrastructure for the acceptance, storage and treatment of biodegradable waste for the production of biogas which is used in a combined heat and power plant to produce heat and electricity. The licensee is developing the facility of the plant at Barryshall, Timoleague on a multi phased Basis. further phases to commence in due course.

The facility was inspected by the Agency on the following dates

- 10/6/2021 – 13 Non Compliances
- 31/8/2021 – 14 Non Compliances
- 14/10/2021 – 12 Non Compliances
- 15/12/2021 - 24 Non Compliances

A number of odour inspections were carried out by the Agency on the 17/6/2021, 1/7/2021, 8/7/2021 and 15/11/2021. The Agency found the site to be non-compliant during all site visits.

During 2021 a number of Actions under CI001815 were closed out which included high level alarms on lagoon, suitable waste quarantine area & odour survey.

The licensee in consultation with the EPA is committed to ensuring that the outstanding items will be resolved on site in a timely manner.

Contact Us

If you have any questions or would like further information on any aspect of this report, please contact us directly.

See below details:

David Wynne. d.wynne@nrge.ie	
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2) How we Manage our Facility

Explanation

To ensure our facility's activities do not cause environmental pollution we are required to have detailed documentation systems in place to help us manage and track our environmental performance. These systems are referred to as Environmental Management Systems (EMS). We review our EMS every year and set up-to-date **environmental goals** to continually improve our environmental performance.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

Environmental Goal	Target Date	Progress
CI Actions opened as of 31/12/2020		
Install a downgradient groundwater monitoring point	July 2021 (for Agency approval)	Completed
Install an odour Abatement system	August 2021 (subject to Agency Approval)	Ongoing
Fire Water Retention	August 2021	On Going
Commission a fire Risk assessment for the installation	August 2021	Completed
Impervious surface in relevant areas of the site (HGV operational areas)	September 2021	Completed in Feb 2022
Impervious surface in relevant areas of the site (pedestrian and light vehicle areas)	October 2021	Completed
Noise Monitoring (subject to agency approval)	July 2021	Completed and Approved
Odour Monitoring	September 2021	

Add rows as necessary

Comment

COVID-19 during 2021 has had a huge impact on getting several actions carried out on site however site management are committed to completing these Actions ASAP.

3) Energy & Water

Energy

Explanation

Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 2 Energy Used

Energy Used (GJ)	Quantity	% Increase/ decrease on previous year
Electricity	2554.23	4.9%
Heavy Fuel Oil		
Light Fuel Oil		
Natural Gas	78.22	
Coal / Solid Fuel		
Peat		
Renewable Biomass		
Renewable Energy Generated On-site	15149.91	44%
Total Energy Used		

Comment

Imported Power was 192.60 GJ which is included in the Electricity Figure.
Total Electricity exported to the national Grid is 12788.28 GJ.
Increase in Renewable Energy generated on site is due to a combination of

improved efficiency in feedstock ratios and a continued improvement in the acclimatisation of the process biology.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 3 Energy Generated

Energy Generated (GJ)	Quantity	% Increase/ decrease on previous year
Renewable Energy	15'149.91	44%
Total Energy Generated		

Comment

12,788.28 GJ of the 15'149.91 generated was exported to the national Grid

Water

Explanation

Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 4 Water Used

Source of Water Used	Quantity (m³/year)	% Increase/ decrease on previous year
Groundwater		
Surface Water		
Public Supply		
Recycled Water	50	
Rainwater		
Total Water Used		

Comment

The company's policy is to minimise water resource use. A rainwater harvesting system was operational throughout 2021 for all washing and utility requirements.

4) Environmental Complaints

Explanation

Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.

We have an environmental complaints procedure in place where you can contact us⁴ directly. You can also contact the EPA⁵ if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 5 Summary of All Environmental Complaints Received in

Type of Complaint	Number of Complaints Received	Number Closed
Odour / Smells	2	0
Noise		
Dust		
Water Quality		
Air Quality		
Waste		
Litter		
Vermin/Flies/Birds		
Soil Contamination		
Vibration		
Other		

⁴ See Section 1, Introduction – Contact Us

⁵ If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to <https://lema.epa.ie/complaints>

Comment

There were two complaints received during 2021 which are linked to a compliance investigation so still remain opened. The Licensee hopes these will be closed out the early part of Q2 2022

5) Environmental Incidents

Explanation

It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.

The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 6 Number of Environmental Incidents

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit					
Explosion					
Fire					
Monitoring Equipment Failure					
Odour					
Spillage					
Breach of trigger Level					
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

There were no Environmental incidents for the reporting year of 2021.

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA⁶.

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

⁶ See section 5, Incidents

Storm Water

Explanation

Storm water is rain water run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution. Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. Storm water from our facility is managed prior to release by;

Class 1 Oil Interceptor in accordance with Licence conditions

2. Storm water from our facility is released into the following water bodies:

Arigideen Estuary

Table 7 Summary of Storm Water Monitoring

Parameter measured	No. of Samples	% Compliant⁷	Comment
On site Temp	4	100%	
Suspended Solids	4	100%	
COD	4	100%	
Ph	4	100%	
Sulphate	4	100%	
BOD 5 day Total	4	0	
Ammonia	4	100%	
Conductivity	4	100%	
Nitrogen	4	100%	
Total Petroleum Hydrocarbons	4	100%	

Add rows as necessary

Comment

Storm water samples were gathered and analysed by an independent laboratory on a quarterly basis in accordance with license conditions. All results were deemed satisfactory bar BOD to which the Agency determined in a site visit report that the BOD concentration was equal to or greater than 4mg/l of four occasions indicating contamination.

⁷ % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation

There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. Waste water produced by our activities is treated as follows before discharge to a receiving waterbody;

N/A

2. Treated waste water from our facility is released into the following water bodies:

N/A

Table 8 Summary of Waste Water Monitoring

Parameter measured	No. of Samples	% Compliant	Comment

Add rows as necessary

Comment

Sanitary Waste Water from the site was directed towards the onsite septic tank. The septic tank is routinely emptied by permitted contractor and transferred to Carrigtwohill WWTP.

Air

Explanation

Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. We monitor air emissions from the following number of emission points at our facility.

Gas Engine A-1

Table 9 Summary of Air Emissions Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
NO _x as NO ₂	3	100%	
SO ₂	3	100%	
CO	3	100%	
Total VOC's (incl CH ₄)	3	100%	
Total non-methane VOC's	3	100%	
Total Particulates	3	100%	

Add rows as necessary

Comment

Quarterly samples from Q2, Q3, Q4 2021 were undertaken for Air Emission monitoring from the CHP. The results showed compliance on all parameters.

Table 10 Summary of Odour Assessments Carried Out

Assessment Conducted By	No. of Odour Assessments	% Compliant⁸	Comment
Licence Holder	27	100	
EPA	4	0	

Add rows where necessary

Comment

Daily inspection is undertaken by the site manager in accordance with condition 6.18 for 27 weeks (5 days/week). Through Q3 + Q4 the licensee has installed and commissioned a number of wet scrubbers and point source location on site which has had a positive impact on the environment on site.

⁸ A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at <http://www.epa.ie/pubs/advice/air/emissions/ag5-odourassessment.html>

Fugitive Solvent Emissions

Are you are required to monitor fugitive solvent air emissions from your facility?

Yes

No

Explanation

The use of solvents is regulated under Irish and European Union (EU) Regulations⁹. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 11 Summary of Fugitive Solvent Emissions

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant

Comment

Not Applicable

⁹ See Annex VII of the Industrial Emissions Directive

<https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

Groundwater

Explanation

Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.

Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. Do you have a groundwater monitoring programme in place?

Yes

No

2. Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?

Yes

No

Table 12 List of Groundwater Pollutants Identified

Pollutants

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

150 word limit

Comment

There was one Ground Water Well, BH1 been used which is located outside the site boundary and has been monitored in accordance with License conditions. 3 more wells have been installed in agreement with the Agency.

Noise

Explanation

Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. We conducted noise monitoring on the following dates this year:

21/07/2021

2. Was the noise monitoring carried out at:

- i. the boundary of our facility,
- ii. noise sensitive locations off-site, or
- iii. both?

Noise monitoring was carried out at noise sensitive locations off-site & at the roadside across from site entrance in agreement with the agency

3. Were measured noise levels compliant with your EPA licence limits?

Yes

No

If No, we took the following actions to address the noise level exceedances?

150 word limit

Comment

Noise monitoring was found to be compliant with license conditions.

7) Waste

Waste Generated

Explanation

Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.

We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in table 13 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 13 Waste Generated

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	0		
Non-Hazardous	0		
Inert	0		
Total Tonnes	0		

Comment

100 word limit

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes

No

Explanation

Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.

We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 14 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 14 Waste Accepted

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	0	0	0
Non-Hazardous	28,099	-4 %	100
Inert	0	0	0
Total Tonnes	28,099	-4 %	

Comment

8) Financial Provision

Explanation

Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility¹⁰ by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes

No

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

May 2019

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

May 2019

4. Has there been any significant changes on your site since the last agreements?

Yes

No

If yes, have you submitted details to the EPA?

Yes

No

N/A

¹⁰ See Appendix II

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture ¹¹
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste
Class 12	Surface Coatings
Class 13	Other Activities

¹¹ This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at <http://www.epa.ie/pubs/advice/aerprtr/aerguid/>

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

<http://www.epa.ie/pubs/advice/licensee/fp/epaapproachtoenvironmentalliabilitiesandfinancialprovision.html>