

ENVIRONMENTAL STATEMENT

2018

Third Update

Lee Strand Co-operative Creamery Ltd.

‘Supporting the Community, protecting the Environment’

Tralee

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SCOPE OF EMAS REGISTRATION

This document represents Lee Strand Co-operative Creamery Ltd's Environmental Statement covering year 2018 in Tralee. The EMAS registration applies to all activities carried out and products produced at Lee Strand Co-operative Creamery Ltd., Ballymullen and Kielduff.

DEROGATION

Lee Strand Co-operative Creamery Ltd has been granted a derogation for 2019 by The Department of Communications Climate Action and Environment (DCCA), as the competent body for EMAS in Ireland. Under the terms of the derogation, the updated environmental statement needs to be validated only every two years. Therefore, Lee Strand is exempt from the obligation to have this updated environmental statement validated in the year 2019. The letter confirming the derogation is included in this statement.

DEADLINE FOR SUBMISSION OF NEXT STATEMENT

The next validated statement will be published in the 1st Semester of 2020.

Roinn Cumarsáide, Gníomhaíthe
ar son na hAeráide & Comhshaoil
Department of Communications,
Climate Action & Environment



FAO: James Sugrue
Lee Strand Co-op Creamery
Ballymullen,
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17th April 2019

Email: jsugrue@leestrand.ie

RE: Confirmation of EMAS Derogation

Dear James,

I acknowledge the submission of your documentation for derogation under Article 7 of the EMAS Regulation.

The Department of Communications Climate Action and Environment (DCCAE), as the competent body for EMAS in Ireland, are pleased to advise you that the derogation has been granted for 2019.

Should you have any questions please do not hesitate to contact the undersigned.

Kind Regards

A handwritten signature in blue ink, which appears to read "Bernie Keady", is written over a horizontal line.

Bernie Keady, Assistant Principal
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—
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INTRODUCTION

This document represents Lee Strand Co-operative Creamery Ltd's (Lee Strand) fifth Environmental Statement and is published in accordance with the European Community Eco-management and Audit Scheme -EMAS Council Regulation (EC) 1221/2009 as amended by Commission Regulation (EU) 2017/1505. The current objectives cover the time span 2016-2019, therefore this update covers year 2018 and includes year 2016 and 2017 unless otherwise stated, for comparison purposes.

Lee Strand's main activity is the processing and distribution of liquid milk. Lee Strand is owned by farmer shareholders.

In May 2013, Lee Strand signed a purchase sale agreement for the Dawn Dairies liquid milk business in Killarney, from Kerry Group, Ireland. The sale was completed on June 29th 2013 and Lee Strand ran the liquid milk plant in Killarney until November 28th 2013. From then the processing was transferred to the Lee Strand site in Ballymullen. The acquisition makes Lee Strand the sole liquid milk producer in County Kerry and significantly increases the annual milk volume, thus securing the company's future in the liquid milk production sector in Ireland. The Dawn Dairies acquisition is very important for Lee Strand as it comes with strong brands that

have a major presence in Kerry, Cork and West Limerick.

2014 represented the first full calendar year of the combined business and during the course of the year Lee Strand was in the transition and consolidation stage of bringing the two operations together. There have been significant changes in the Ballymullen plant and in the product mix in 2014 when compared to previous years.

The procedure used by Lee Strand to rate its aspects was updated in 2015 to reflect the increased consumption. Lee Strand also revised its environmental management programme for 2015-2016.

In 2015, Lee Strand achieved greater efficiencies in production and distribution.

A significant effort was focused on production efficiency in 2016 and this resulted in a 4.2% reduction in production hours in 2016 compared to 2015. This effort was continued in 2017 and 2018.

On a national scale, according to the Central Statistics Office, there was a 4.3% increase in milk production in 2018 compared to 2017. Milk prices decreased over the course of 2018 with the annual average national milk price for 2018 showing a decrease of 6% (Society of Chartered Surveyors Ireland (SCSI)/Teagasc Agricultural Land Market Review and Outlook 2019). There was an increase in production costs largely due to adverse weather conditions.

Dairy markets are expected to remain relatively steady in 2019, with little change in Irish producer milk price anticipated.

The agricultural sector is facing many challenges; chief among these is uncertainty following the UK's decision to leave the EU along with the fall in the value of sterling. It is still unclear what the effects will be on the Irish Dairy industry.

In 2015, the Department of Agriculture, Food and the Marine launched Food Wise 2025 the Irish Government's strategic plan for the development of the agri-food sector for the next decade.

The plan includes ambitious growth targets for the sector and recognises that continued development of the sector must be based on efficient and environmentally-friendly production. The report states that the

continued growth of the agri-food sector must be based on sustainable intensification.

“Sustainability” has been the Lee Strand ethos since first implementing an Environmental Management System in 1998.

Environmental Management is central to day-to-day business management and sits as comfortably at the Board Room table as the financial review.

As a leading food company, Lee Strand's focus is on resource efficiency. Our achievements in terms of the efficient use of energy and water are clearly demonstrated in this Statement.

As a Small and Medium-sized enterprise (SME), Lee Strand believes that investment in expensive technology should only be considered after fully optimising the systems already in place. Basic awareness is the best means of achieving high standards of environmental performance.

Lee Strand's commitment to sustainability and resource efficiency has been acknowledged by the achievement of Energy Manager of the Year award 2008 – a prestigious award made by Sustainable Energy Ireland.

In 2013, Lee Strand was nominated by the Irish National Accreditation Board (INAB) to represent Ireland and was selected to attend the EMAS Awards (Eco-Management & Audit Scheme) in Germany on April 7th and 8th, 2014. The awards recognise companies that have excelled in “Effective eco-innovations supporting improvements in environmental performance”.

Origin Green

Origin Green is a world leading national sustainability programme for the entire Irish food and drink industry. It is the only sustainability programme in the world that operates on a national scale, uniting government, the private sector and food producers through Bord Bia, the Irish Food Board. The Origin Green programme focuses Irish companies on sustainable production methods thereby minimising the sector’s environmental impacts.

The Origin Green Charter directs companies to create a comprehensive and challenging plan committing to sustainability improvements that are relevant to the individual business. These plans are independently verified by a third-party agency and monitored on an annual basis.

The objectives are set across three key areas: Raw Material Sourcing, Manufacturing Processes and Social Sustainability.

In July 2016, Lee Strand submitted its first Origin Green sustainability plan in relation to participation in the Bord Bia Origin Green Programme

The plan received a very favourable review and Lee Strand became a verified Origin Green member. Origin Green Verified Members have a proven and measured commitment to sustainability

The Lee Strand Charter plan document outlines the ambition, initiatives and specific targets in key areas which Lee Strand has committed to over the period 2016-2019.

The plan was reviewed and updated in 2017, 2018 and 2019. Lee Strand has demonstrated significant progress in terms of its Origin Green sustainability targets.

Lee Strand Co-op is fully committed to the Origin Green programme and to meeting our sustainability targets.

A recommendation of Food Wise 2025 is to further develop and enhance the Origin Green programme.

Sustainable Farming

Lee Strand actively encourages participation by its farmers in the Green, Low-Carbon, Agri-Environment Scheme (GLAS) a new scheme, part of the Rural Development Programme 2014-2020. The scheme is green as it preserves traditional hay meadows and low-input pastures; low-carbon as it retains the carbon stocks in soil through margins, habitat preservation and practices such as minimum tillage; and agri-environment as it promotes agricultural actions, which introduce or continue to apply agricultural production methods compatible with the protection of the environment, water quality, the landscape and its features, endangered species of flora and fauna and climate change mitigation. The scheme is open to active milk suppliers as well as farmers who have retired from milk production.

Currently 33 farmers are registered and the tasks being covered include:

- protection of habitats (Hen Harrier; Chough and White Fronted Greenland Geese)
- protection of watercourses and
- low emission slurry spreading.

All participants have completed farm specific nutrient management plans and have completed soil sampling on their farms.

Some of the participant farmers have been accepted in the Locally Led Agri-Environment Scheme to cater for those farmers who are farming large tracts of Hen Harrier Land.



Protection of Habitat for White Fronted Greenland Geese.

Lee Strand believes that to operate sustainably it must source raw materials that have been produced sustainably. Milk is Lee Strand's main raw material and therefore it is important to ensure that farmers produce milk according to recognised and independently verifiable sustainable standards.

Currently, 100% of all milk supplied to Lee Strand is sourced from farms certified to the Bord Bia SDA scheme. This scheme demonstrates that milk is produced sustainably under an accredited scheme

A new scheme, Knowledge Transfer Group Scheme, has been launched nationally by the Department of Agriculture, Food and the Marine. These groups will provide a key support to the agri-food sector in building its knowledge and skills base to underpin continued growth and competitiveness.

In 2018, a project using a grass management tool was initiated. The farmers received an on-farm demo of the system. All farmers now have their paddocks mapped and are measuring grass growth on their farms.

Twenty-seven Lee Strand farmers formed a Knowledge Transfer Group in June 2016. The group members attend meetings and undertake projects.

Activities undertaken in 2017 on each farm include:

- Carbon navigator
- Profit monitor
- Breeding plan
- Animal health plan with Vets Farm
- Health and Safety survey
- Autumn grazing plan

Workshops/Meeting attended include:

- Farm Health and Safety information meeting
- Cell check workshop

The work of the group continued in 2018.

The following seminars were held:

- Winter feeding
- Milk quality
- Calf rearing

Guest speakers also made presentations to the Group.

Lee Strand and the Local Community

Lee Strand provides a basic necessity to the community. In a sense Lee Strand belongs to the community through its farmer shareholders and enjoys a very close working relationship with those shareholders, which is mutually beneficial. Public accountability is a day-to-day objective at Lee Strand, as the company strives to provide the highest quality product, when the customer wants it.

Consequently, the EMAS commitment to openness and transparency regarding environmental performance is central to the Lee Strand Business ethos.

The company was audited and was successful in retaining IOFGA and “Farmed in the Republic of Ireland” accreditation.

Lee Strand promotes Green Energy

European and National Policy, in accordance with the Kyoto Protocol, are focused on significantly increasing the supply of energy from sustainable renewable sources. Lee Strand’s commitment to the environment is further proven by its wind farm development in Kielduff close to Tralee which facilitates the generation of ‘green energy’. The development was commissioned in January 2010 and the 16

turbines are operational. In 2018, the wind farm generated 29759 MWh which was sold to Viridien (Energia) for domestic use. Lee Strand used 1326 MWh of electricity in 2018.

Planning for two additional turbines has been granted and this project is being pursued.

Lee Strand supports –

- ❑ Farm Development
- ❑ Rural Development
- ❑ EU LEADER
- ❑ Agricultural Education
- ❑ Farming Associations
- ❑ Kerry Airport
- ❑ Radio Kerry
- ❑ Festival of Kerry
- ❑ Sporting Events: football, hurling, rugby, soccer, athletics, rowing and cycling
- ❑ Forestry
- ❑ Chamber of Commerce
- ❑ Charities – for example: Special Olympics, Pieta House.

Lee Strand takes great pride in supporting the local community. In 2018, the company donated 10.4 cent to community organisations for each carton of milk sold. This was a 9% increase on 2017.

This statement is another step towards openness with the local community. The information contained in this statement provides a clear signal of our commitment to protecting the environment for the benefit of our stakeholders and customers alike.

Without a high-quality environment, Lee Strand would not have the high quality raw material on which we depend.

Lee Strand believes in the importance of providing education at an early age in areas such as health, nutrition and environmental protection. Visits to the Lee Strand production facility and the provision of school homework diaries provide a vehicle for delivering key information to students.

The Lee Strand Primary Schools Science initiative continued in 2018 and 35 visits were hosted. During the visits, the children view the production process and the environmental management system.

In 2018, Lee Strand distributed 9294 school homework diaries to primary school students. The diary is an excellent medium for promoting sustainable practices and in the coming years Lee Strand intends to include more information on environmental protection in the diary.

In moving forward over the period of this plan, Lee Strand's goal is to support sustainable development by maintaining the high standards of efficiency the company has achieved while maintaining a low-cost base.

John O'Sullivan
General Manager
May 2019

SITE DESCRIPTION AND ACTIVITIES

Location

Lee Strand is located in Ballymullen, in Tralee in Co. Kerry. A location map is included as Figure One. All of the milk processing is undertaken at the Ballymullen site. The company also has a small milk intake point at Kielfuff (0.045 acres), just outside Tralee town.

The Ballymullen site is a 10-acre site developed from a Greenfield in 1992. The site is bounded by a residential area known as Manor Village to the East, Tralee General Hospital to the North, Kelliher's Agri Feed and Electrical Store to the South and Gary Ruth residential area and Army barracks to the West. The Kielfuff site is located on Kielfuff Road approximately 5 miles North of Tralee town centre.



Figure 1 Location map

Product Profile

Lee Strand processed 28.5 (6.26 million gallons), 27.9 (6.14 million gallons) and 26.4 (5.81 million gallons) million litres of milk, in 2018, 2017 and 2016 respectively, into a range of milk products. In 2014, the volume of milk processed for retail sale trebled.

The Lee Strand branded product range is shown on Table One. The full range of milk and milk products are produced on site while the remaining products are produced under contract and distributed by Lee Strand. The operations carried out on site are classified under NACE code DA **10.51**.

PRODUCT	RANGE
Milk	Low Fat (1l, 2l, 2.5l, 2.5gal, 5gal, 250ml) Light (1l) Skimmed (1l) Full Fat (pint, 1l (carton and bottle), 2l, 2.5l, 2.5gal, 5 gal) Protein Milk (330 ml)
Cream	Tubs (4oz, 8oz) Bottles (1pint, 1litre) Catering Packs (2.5l)
Buttermilk	1l, 19 litres.
Butter	1lb, mini portions
Cheese	Random Packs Catering Packs

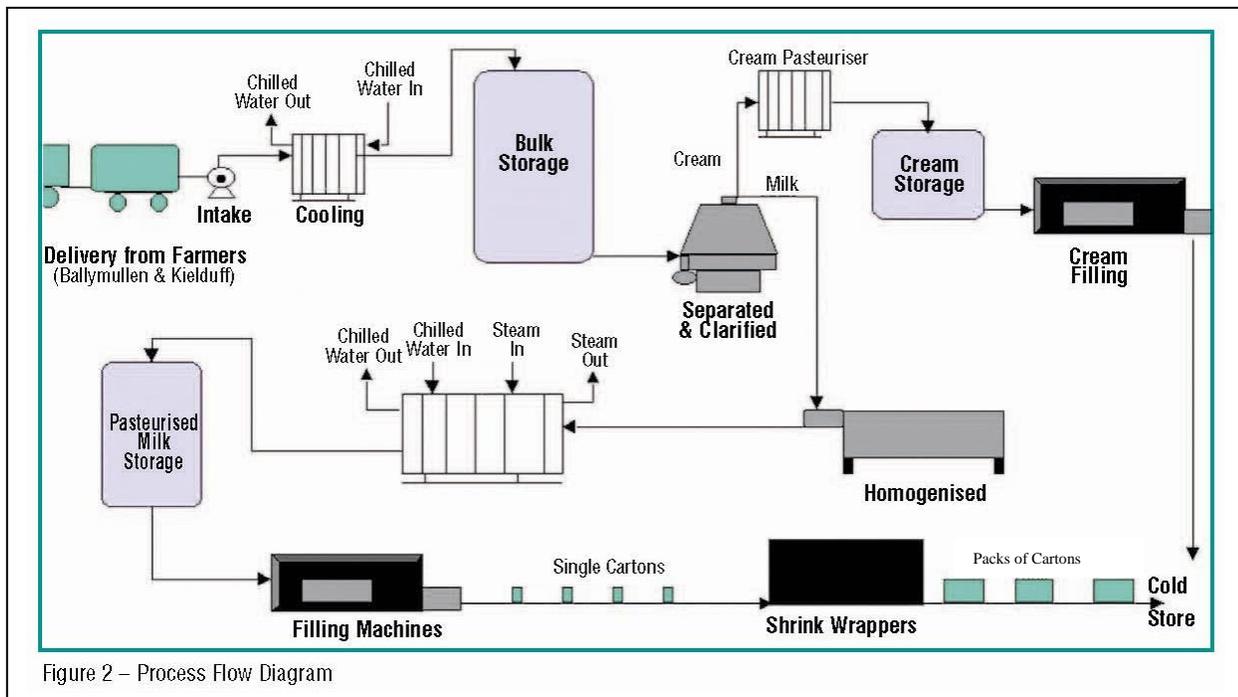
Table 1 Lee Strand Branded Product Range

Site Activities

The processing and distribution of milk requires a number of activities. The activities at Lee Strand can be classified as follows –

- ❑ Collection and intake
- ❑ Quality Assurance
- ❑ Processing
- ❑ Filling, packaging and storage
- ❑ Cream processing and storage
- ❑ Sale of manufacturing milk
- ❑ Product distribution
- ❑ Sale of supplies to farmers
- ❑ Site maintenance and utilities

A process flow diagram showing the production stages is included as Figure Two.



Milk Collection and Intake

The majority of Lee Strand's suppliers deliver milk directly to the Lee Strand Ballymullen site. At the Kielduff intake site, farmers transfer milk from their tankers to a bulk tanker, which is then transported to the Ballymullen site. Bulk tankers collect milk directly from the remaining farms.

Quality Assurance

Lee Strand is renowned for producing consistently high-quality milk. Rigorous testing and quality control regimes ensure that quality is maintained and improved each year. The company attained Health Mark Registration in 1992, which verifies compliance with the EC health rules for the production of milk. In June 2014, Lee Strand achieved certification to ISO 22000: FSSC, demonstrating the company's commitment to food safety.

Processing

The milk is cooled, homogenised and pasteurised. All milk for sale is then processed to the required standard for full fat, low fat, light, skimmed milk and cream.

Filling, Packaging and Storage

The milk products are filled into paper cartons, plastic bottles and catering boxes as required by customers. All products are stored in cold rooms awaiting distribution.

Cream Processing and Storage

The cream is pasteurised, chilled, filled, packed and stored in a cold store awaiting distribution.

Sale of Manufacturing Milk

Milk, which is in excess to the production demands, is sold as manufacturing milk. This milk is cooled on site and transported by tanker to other processing plants.

Product Distribution

Lee Strand distributes milk and dairy products throughout County Kerry, North Cork and West Limerick in refrigerated trucks. In addition, milk agents collect milk directly from the site and distribute door to door and to retail units along their routes.

Site Maintenance and Utilities

The Lee Strand site and production facilities were designed to maximise space availability in order to create a pleasant working environment. A site plan of Lee Strand, Ballymullen, is included as Figure Three. Utilities on site include –

- ❑ Refrigeration plants
- ❑ Water treatment plant
- ❑ Effluent balancing system
- ❑ Boilers
- ❑ Compressed air plant

Lee Strand has a maintenance workshop on site and operates a comprehensive preventative maintenance system.

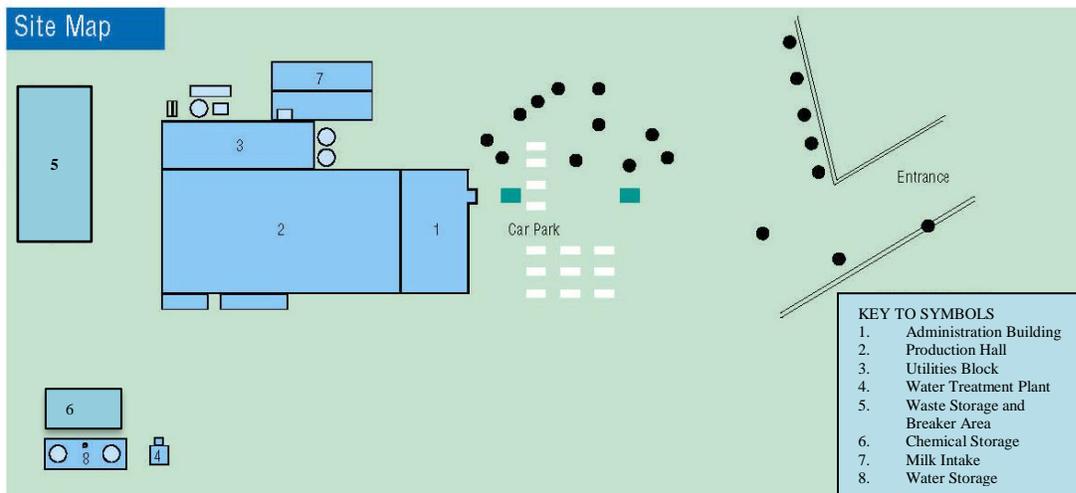


Figure 3 Site Plan for Ballymullen

IDENTIFICATION AND ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL ACTIVITIES AT LEE STRAND

Lee Strand has identified all of the company’s environmental aspects and has evaluated them to determine how significant they are in terms of impact on the environment. The criteria employed by Lee Strand for determining significance include both business and environmental considerations.

Environmental criteria include –

- ❑ Impact based on analytical results / factual evidence
- ❑ Scale and severity of impact
- ❑ Frequency of occurrence
- ❑ Likelihood of Control Loss

Business Criteria includes –

- ❑ Regulatory/Legal Exposure
- ❑ Effect on Public Image
- ❑ Cost of changing / reducing the impact
- ❑ Degree of Management Concern

Under each criterion, each aspect is allocated a number on a scale, which reflects the significance of the impact

Table Two categorises the environmental aspects into significant and not significant. The rating of all aspects can be seen in the Register of Environmental Aspects and

Impacts. The significant Environmental Aspects are reviewed on an annual basis as part of the Management Review Meeting.

Aspect Considered Significant	Aspect Not Considered Significant
Water Use	Fuel Use
Electricity	Packaging
Non-hazardous Waste	Effluent
	Noise
	Visual impact
	Transport
	Product
	Biodiversity
	Hazardous Chemicals
	Emergencies
	Soil and ground water Contamination.
	Illumination
	Thermal Energy
	Surface Water Discharges
	Boilers emissions
	Odours

Table 2 Categorisation of Significant and not significant Aspects.

Environmental Aspect	Impact	Explanation for Significance	Objective Number
Electricity Use	Depletion of a Natural resource	Electricity is generated from largely non-renewable sources. Energy is a major production cost. The use of electricity per unit product is a key environmental performance indicator.	1.0a
Fuel	Use of fuel results in the depletion of a non-renewable resource	LPG is the fuel used in the boilers and for fork lift trucks. Diesel is used by lorries, which distribute the product. Even though fuel use is not rated as significant, Lee Strand has set an objective to reduce fuel use.	1.0b
Water - Used for cleaning of silos and floors, CIP etc.	Depletion of a Natural resource	Lee Strand has achieved very significant reductions in water use since the company's environmental management system was first implemented in 1998. Water use increased in 2014 and 2015 due to increased production. In 2015, a leak was detected and corrective action has been taken. Water use per tonne of product reduced by 19.5% in 2017 when compared to 2016. However, water consumption increased by 11% in 2018 when compared with 2017. Efforts to determine the cause of the increase have been successful and water use is showing a decrease in 2019. The use of water per unit product is a key environmental performance indicator.	2.0
Non-Hazardous Waste	Landfill Utilisation	Lee Strand has achieved significant reductions in non-hazardous waste generation; however, waste had increased since late 2013 due to the increased throughput. In 2017 the amount of waste per tonne of product decreased by 22.5%.and in 2018 the decrease was 17.8% when compared with the previous year. The amount of waste generated is a key environmental performance indicator.	3.0

Table 3 Significant Environmental Aspects 2016-2019.

Due to the nature of the production activity carried out at Lee Strand i.e. pasteurising of milk and packaging of liquid milk, electricity, water and non-hazardous waste are significant aspects.

Improvement in core environmental performance indicators has been significant in the past decade but since the acquisition of the new business in 2014, significant increases

occurred which were a consequence of a significant increase in production. Lee Strand has introduced successful measures to improve efficiency and to reduce use of resources. Lee Strand is committed to continual improvement and set objectives to reduce the significant aspects i.e. energy, fuel, water and non-hazardous waste. These significant aspects are

included in the environmental programme for 2016-2019.

The programme covering the period 2015-2016 and achievements during that period as well as the programme for 2016-2019 are included as Table Six. Actions implemented and planned to improve environmental performance, achieve objectives and targets are described in Table Six.

Lee Strand achieved reductions in electricity and fuel use in 2018 along with a significant reduction in non-hazardous waste generated. Even though, water use increased in 2018, the reduction in consumption is 17% ahead of the target set for the year.

COMPLIANCE WITH LEGAL REQUIREMENTS RELATED TO THE ENVIRONMENT.

The Technical Manager on an annual basis evaluates the company's compliance with relevant environmental legislation and regulations. The Register of Environmental Regulations and Compliance Obligations is used as a guide in this evaluation. Data relating to legal compliance is detailed in the Monthly meeting minutes.

The company's performance as regards compliance is discussed at the monthly meetings and at the annual management review. The company is committed to carrying out internal audits to evaluate compliance with relevant environment legislation and regulations, the ISO14001 standard and EMAS.

ENVIRONMENTAL

PERFORMANCE DATA

Key environmental performance data for Lee Strand are presented under the headings:

- ❑ Emissions to Air
- ❑ Emissions to Sewer
- ❑ Emissions to Water
- ❑ Waste Management
- ❑ Biodiversity
- ❑ Resource Management

Emissions to Air

Emissions to air arise from the boilers, a small burner that provides space heating and vehicle emissions from vans used to transport product.

There are two boilers on site, one in operation and one on standby, each with a capacity of 6000 lbs. of steam per hour. Boilers are used for the generation of steam, which is used in processing. Boiler emissions from the Lee Strand site do not require a licence under the Air Pollution Act.

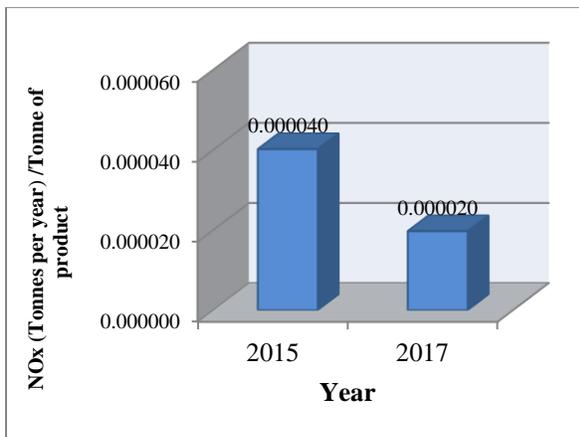


Figure 4 Boiler Emissions -NOx - Year 2015-2017

In October 2014, Lee Strand replaced LFO with LPG for use in Boilers. In 2016, a new boiler was purchased. This boiler is smaller in size but is as efficient as the old boiler. Figures Four and Five show the combined emissions from both boilers for 2015 and 2017.

The German TA Luft Regulations are used internally to specify limits for emissions to air in order to protect human health and the environment. The boilers are in full compliance with the TA Luft limits for (NO_x) and Sulphur Dioxide (SO₂).

It was agreed in 2016 to reduce the frequency of boiler emission testing to once every two years. This decision was taken in light of the significant reduction in emissions following the change to LPG from LFO. In addition, boiler run times were decreased by 5% in 2016.

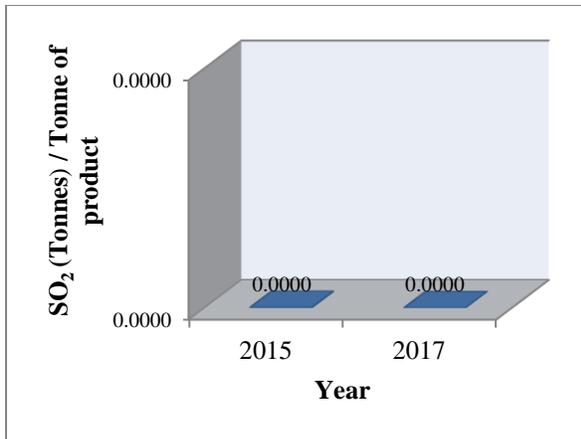


Figure 5 Boiler Emissions - SO₂ – Year 2015-2017.

The NO_x emissions measured in 2017 were very low and showed a 50% decrease on the 2015 figure. SO₂ emissions were not detected in 2017.

Emissions from the space-heating unit are minor, and well within the TA Luft Emission limit values. Regular servicing and maintenance on the delivery vans ensure that emissions from this source are minimal.

In 2018, there were no leaks of F-gas emissions to air from cooling equipment.

Emissions to Sewer

The main sources of effluent generated from the site are process equipment washing, floor and vehicle washings and boiler water blowdown. Water, which has been used for process equipment washing in the plant, is sent to a balancing tank where the pH (acidity/alkalinity) is adjusted prior to discharge to the sewer.

Discharges from the site are subject to strict control under the terms of the Trade Effluent Licence, issued by Kerry County Council under the Water Pollution Acts.

Figure Six shows the annual average values for BOD (Biological Oxygen Demand), SS (Suspended Solids) and FOG (Fats Oil and Grease) as compared with the licence limits.

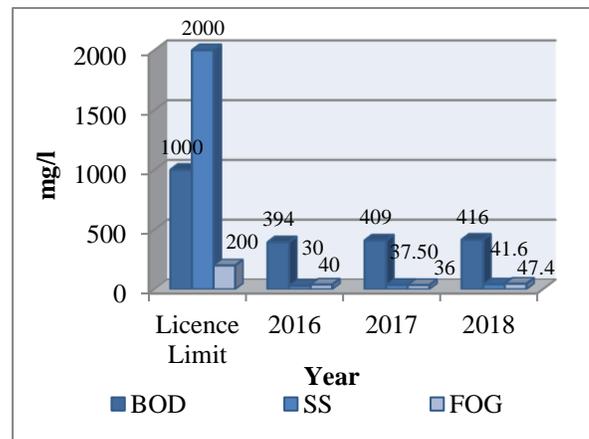


Figure 6 Comparison of Average Monthly Effluent Emissions with discharge Licence limits

Figure Seven shows the annual average values for pH, temperature, volume and BOD loading as compared with the licence limits.

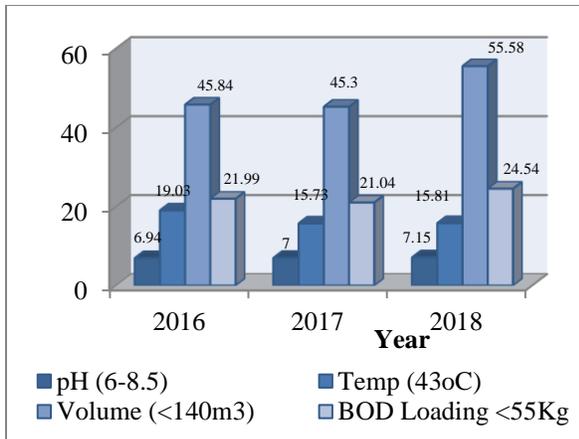


Figure 7 Comparison of Average Monthly Effluent pH, Temperature, Volume and BOD loading as compared with discharge Licence limits.

all oils and chemicals used on site are stored in contained (bunded) areas.

The graphs are an indication of Lee Strand’s level of compliance with licence requirements.

Emissions to Water

Rainwater from the roadways and carpark are discharged to the surface water drainage system. The site surface water drainage system discharges into the Tralee town sewerage system, which discharges to the Tralee Town Council Waste water Treatment Plant.

Lee Strand has set internal company limits of BOD $\leq 20\text{mg/l}$, pH ≥ 6.0 to ≤ 8.5 , $\text{NO}_3 \leq 50\text{ mg/l}$, $\text{NH}_4 \leq 10\text{mg/l}$ and $\leq 50\text{mg/l}$ SS for surface water.

Testing of surface water is carried out annually. The surface water tests carried out in the period 2016-2018 were in full compliance. The surface sewer is inspected weekly. Procedures are in place to control the handling of materials on site to ensure that spills are prevented. As an additional safety mechanism,

Waste Management

Waste generated at Lee Strand consists of non-hazardous waste from raw material packaging and rejects from the filling machines, and general waste from offices and the canteen.

Waste prevention initiatives such as minimising transport damaged product and minimising rejected cartons on the milk filling machines, together with recycling initiatives, have significantly reduced waste disposal to landfill. Figure Eight illustrates the tonnes of non-hazardous waste generated per tonne of product for Year 2016-2018.

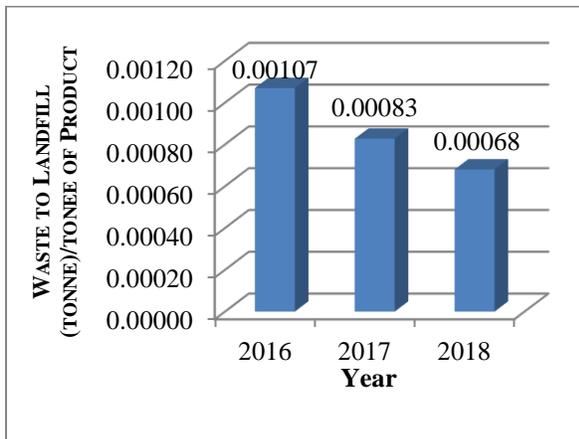


Figure 8 Comparison between tonnes of waste sent to landfill per tonne of product for Year 2016-2018.

The target set for the period 2016-2019 was to reduce the volume of waste, per tonne of product, disposed to landfill by 4% from 0.00103 (2015 figure). This target was prioritised in 2017 and 2018.

In 2018, the reduction in the volume of waste produced per tonne of product was 30.9% ahead of the target set. The volume of waste to landfill per tonne of product was 17.8% lower than in 2017.

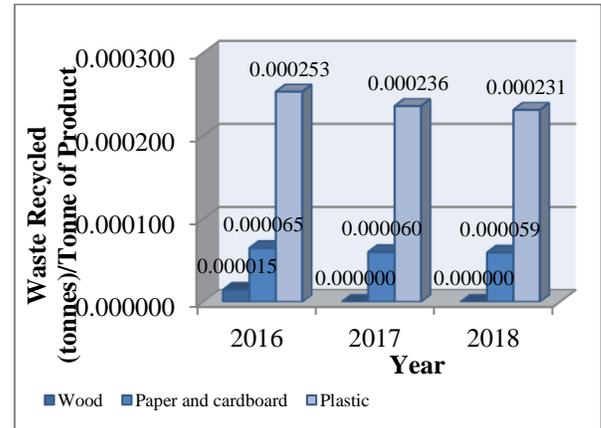


Figure 9 Comparison of tonnes of waste recycled per tonne of product for Year 2016-2018.

Figure Nine illustrates the recycling rates for wood, paper and cardboard and plastic. The recycling rate for paper and cardboard and plastic per tonne of product showed a decrease of 1% and 2% respectively, in 2018 when compared to 2017. This is due to more efficient practices and a decrease in transport damaged packaging. There were no pallets recycled on site. This is due to a commercial arrangement with CHEP (pallet provider) where the pallets are reused by Lee Strand or rotated within CHEP and unavailable for recycling.

A small amount of chemical waste is generated by the laboratory.

Laboratory waste is taken off site by a licensed hazardous waste disposal agent for disposal. Figure Ten shows

the quantity of hazardous waste generated per tonne of product for years 2015 to 2018. The 2016 figure includes waste generated in 2015 as no chemical waste was removed in 2015 due to the low volumes generated. Hazardous waste will be removed in 2019.

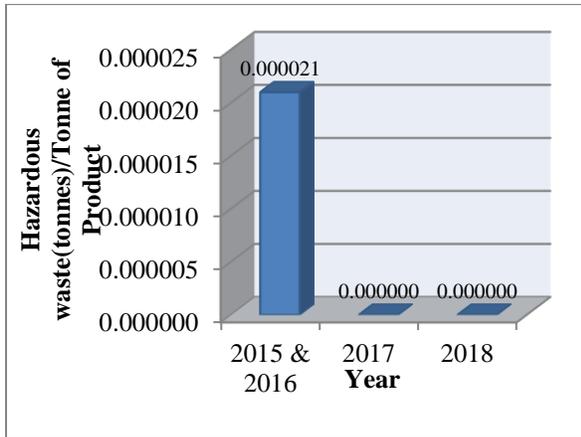


Figure 10 Comparison of tonnes of hazardous waste recycled per tonne or product for Year 2015-2018.

Waste oil, fluorescent tubes and waste steel are recycled.

Biodiversity

There are a number of designated nature conservation sites of national and/or European Conservation importance within a 5Km radius of the Lee Strand site. These include Slieve Mish Mountains, Tralee Bay and Maharees peninsula, Tralee Bay and Ballyseedy Wood.

Air emissions and effluent emissions from Lee Strand are in 100% compliance with the relevant regulations and licences. A Biodiversity Assessment carried out in 2010 concluded that Lee Strand will not adversely affect the biodiversity, integrity and

conservation status of any designated nature conservation site. Table Four shows land use (m²) per tonne of product.

	Land Use (m ²)	m ² /Tonne of Product
2016	100,000	3.67
2017	100,000	3.48
2018	100,000	3.41

Table 4 Land Use m² per tonne of product 2016-2018.

Resource Management

The main site resources are fuel (Diesel, LFO and LPG), electricity, water and raw materials.

Fuel

In 2014 Lee Strand made a decision to replace Light fuel oil (LFO) with Liquefied Petroleum Gas (LPG) for use in the boilers for the production of steam.

Gas oil is used for space heating. Diesel is used in the refrigerated trucks, which deliver products and in the trucks used to haul surplus milk.

Figure Eleven shows that there was a 1.4% decrease in diesel consumption per tonne of product for year 2018 when compared to 2017.

The decrease in diesel use is due to the further rationalisation of the transport network in 2018. The restructuring resulted in two less milk delivery rounds, however, a new round was added due to the retirement of a milk agent and the incorporation of this business into the Lee Strand distribution system. Due to the restructuring there is now one less truck on the road and the changes to the remaining routes have led to a more efficient distribution system with a reduction in miles travelled and a reduction in fuel use.

In 2016 the company purchased two tractor units for bulk milk haulage

Two new tanker units were purchased in 2018 (August and December) for bulk milk collection. These tankers are equipped with more efficient

pumps that allow faster pumping of the milk with less time required to complete the transfer of the milk to the tanker. It is expected that this new development will result in less diesel consumption.

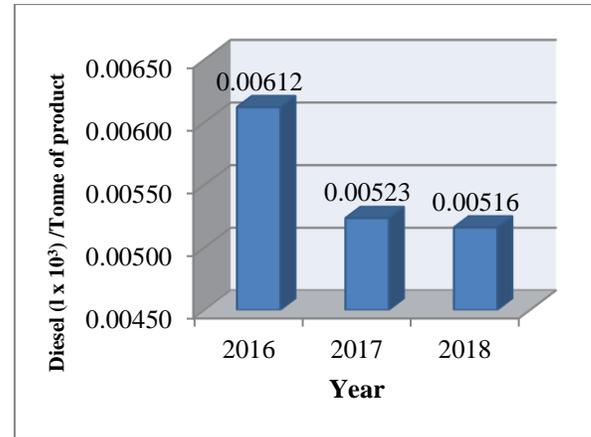


Figure 11 Comparison of diesel consumption per tonne of product for Year 2016-2018.

LFO has not been used in Lee Strand since October 2014 due to the change to LPG use.

2015 was the first full year on LPG. A meter was fitted in June 2015 to measure LPG consumption. Figure 12 shows LPG consumption per tonne of product for 2016 to 2018. LPG usage per tonne of product decreased by 10.2% in 2018 when compared to 2017.

In the past Lee Strand required two forklifts. However, due to the improved work practices possible in the new coldstore, only one forklift is required. This usage of this forklift is also reduced resulting in reduced gas consumption.

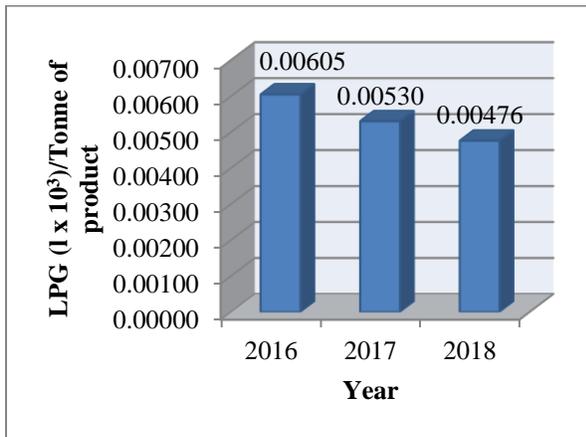


Figure 12 Litres of LPG Use per tonne of product for 2016 and 2018.

Total fuel use for the period 2016 to 2018 is shown in Figure 13. Total fuel comprises diesel (refrigerated delivery trucks and surplus milk tankers) and LPG. Consumption of fuel decreased by 3.6% in 2018 when compared with 2017.

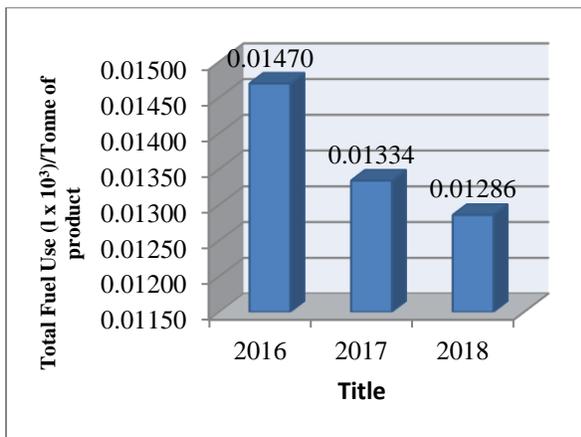


Figure 13 Comparison of Total Fuel Use per tonne of product.

Electricity

Electricity is used for milk processing, compressed air, motor power and ventilation. Electricity use per tonne of product is a key environmental performance Indicator at Lee Strand.

A target was set for years 2016-2019 to reduce the consumption of electricity (MWh per tonne of product) by 4% from 0.0479 (2015 figure). Electricity usage per tonne of product decreased by 1.2% in 2018 when compared with 2017 and was 1.5% ahead of the target set.

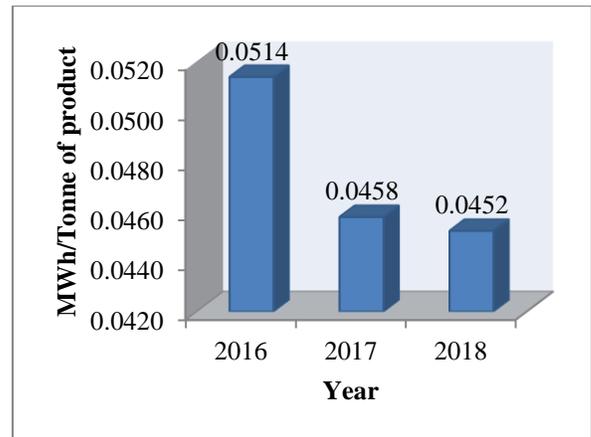


Figure 14 Electricity Use (MWh) per tonne of product 2016-2018.

A new coldstore was constructed in 2018. The facility is operational since June 2018. This development has led to greater efficiency in the distribution operation and a reduction in energy use. However, in 2018 an offsite finished product storage depot was closed and the operation was

incorporated into the Ballymullen site. This increased refrigeration requirement resulted in increased electricity usage which offset the reduction in energy usage achieved due to the new cold store.

An energy audit was carried out in 2017 and the recommendations were reviewed. However, the cost savings involved in implementing these recommendations did not justify the cost.

The overall energy consumption in 2018 is the result of the sum of diesel, LFO, LPG and electricity.

Water

Water is used mainly for the cleaning of process equipment and floor areas.

Water use per tonne of product is a key Environmental Performance Indicator at Lee Strand.

Water use per tonne of product is shown on Figure Fifteen. A leak was detected in late 2015. Corrective action was taken and in 2016 and 2017 water use decreased.

Water use in 2018 increased by 11% when compared with 2017. Efforts to determine the cause of the increase have been successful and water use is showing a decrease in 2019.

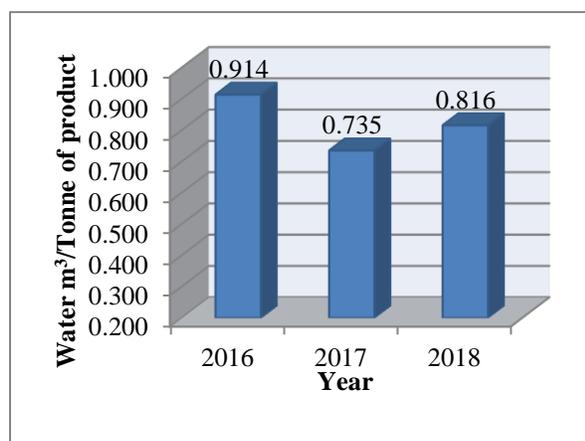


Figure 15 Water Consumption per tonne of product 2016-2018.

The reduction in water consumption is 17.2% ahead of target for the period 2016-2018.

Key Raw Materials

The key raw materials used in the process are milk, packaging materials and cleaning chemicals. Table Five details resource use for Year 2016 – 2018.

Milk intake increased by 2% in 2018 when compared to the 2017 figure.

Packaging use per tonne of milk processed decreased by 7.8% while the volume of chemicals purchased decreased by approximately 14% compared to 2017.

	Milk (Tonnes)	Packaging (Tonnes/Tonne of Product)	Chemicals (Litres X 10³ /Tonne of Product)
2016	27232	0.0099	0.00107
2017	28750	0.0097	0.00132
2018	29321	0.0090	0.00113

Table 5 Quantity of milk, packaging and chemical consumables per tonne of product in Year 2016-2018.

OTHER FACTORS REGARDING ENVIRONMENTAL PERFORMANCE

The means by which the improvements in environmental performance were achieved during the period Year 2015 – Year 2018 are included on Table Six.

Product Distribution

Lee Strand is conscious of the environmental impact of the product distribution network and has implemented continual improvement initiatives in this area. To this aim, product is no longer delivered on a Sunday. In recent years, rationalisation of the distribution structure has led to a reduction in the number of milk trucks for the delivery of finished product to multiples and retail outlets. Previously, one factored goods truck removed from the road and another route was absorbed into other routes.

In 2018 the transport network was reviewed and as a result transport routes were restructured. This resulted in two less milk delivery rounds, however, a new round was added due to the retirement of a milk agent and the incorporation of this business into the Lee Strand distribution system. Due to the restructuring there is now one less truck on the road and the changes to the remaining routes have led to a more efficient distribution system with a reduction in miles travelled and a reduction in fuel use.

Two new tanker units were purchased in 2018 (August and December) for bulk milk collection.

These tankers are equipped with more efficient pumps that allow faster pumping of the milk with

less time required to complete the transfer of the milk to the tanker. It is expected that this new development will result in less diesel consumption.

The new coldstore and picking of rounds is proving to have a significant positive impact on reduction of waste generated from stores and distribution.

Lee Strand monitor and record the quantity of waste (transport damaged) product each driver and milk agent generate. In Quarter 4 of 2014 a new system of recording transport damaged product was introduced which includes all products and is related to sales for each delivery round. Figure 16 shows the data for Years 2016 to 2018 based on the new recording system.

Lee Strand set a target, for years 2016-2019, to reduce the volume of transport damaged product to <1% of sales. In 2018, transport damaged product was 0.641% of sales. This was a 0.2% decrease on the 2017 figure and is 36% ahead of the reduction target set.

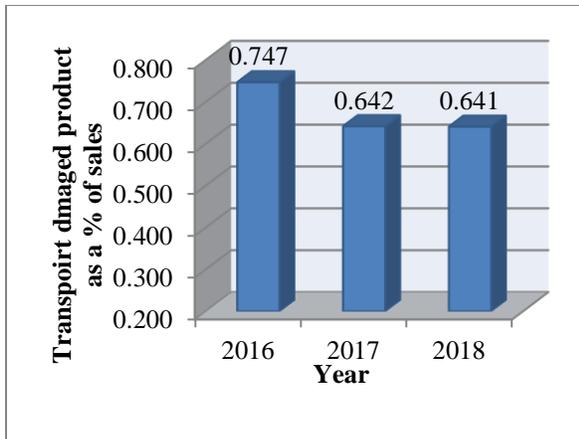


Figure 16 Transport Damaged Product as a % of Sales 2016-2018.

Noise

Conscious of our location within an urban environment, Lee Strand carries out noise surveys every two years. A noise survey was carried out in June 2017 and the site is in compliance with the noise limits specified in the site planning permission - L_{Aeq} of 50 dB(A) during the hours of 0800 - 1800 and L_{Aeq} of 40 dB(A) outside these hours. A noise survey will be carried out in 2019.

Visual Impact

The Lee Strand site has a minimal visual impact as the site, buildings and landscaped areas are all maintained to a high standard and the facility is within an urban area.

Training and Awareness

Environmental Awareness raising is a key means by which improvements in environmental performance are achieved at Lee Strand.

Consequently, awareness raising is an ongoing activity at Lee Strand both informally and as formal training sessions, including induction training for new employees.

In addition, environmental signs are erected around the site to maximise awareness for staff and contractors.

A new training package was developed in 2018 and has been very well received. The training is visual and interactive. It is also quiz based. The plan is to roll this training out to include contractors and visitors. It is envisaged that a link to the programme would be linked to visitors and contractors so that the training can be completed before coming on-site.

Contractors

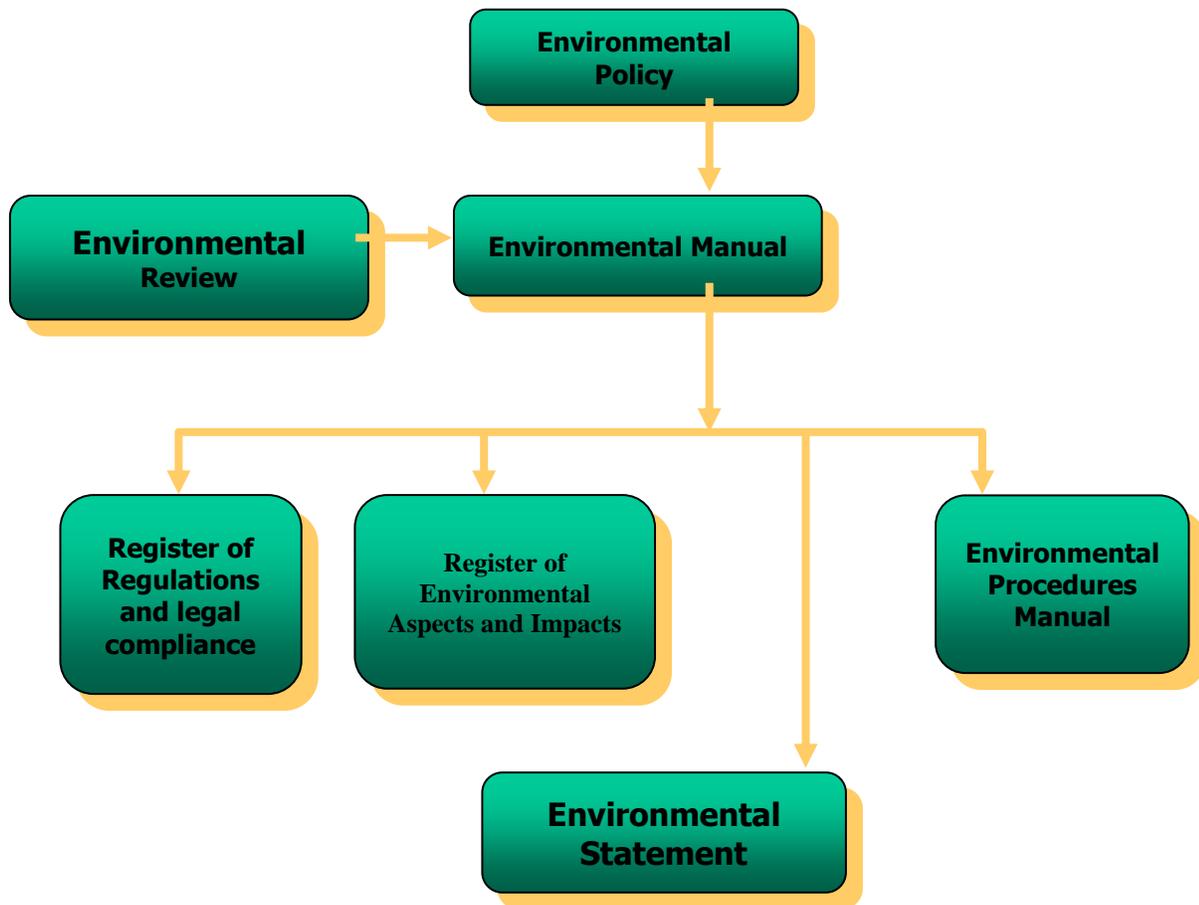
Lee Strand strives to involve all contractors in the site EMS as far as practical. This is achieved by issuing a code of practice on environmental controls to all contractors.

Lee Strand has introduced a Contractor Induction programme for all contractors working on site.

OVERVIEW OF ENVIRONMENTAL MANAGEMENT SYSTEM

The Environmental Management System at Lee Strand is represented diagrammatically below. The EMS at Lee Strand is based upon ISO 14001 and EMAS.

The Environmental Policy for Lee Strand is included in this Statement.



ASPECT	ENVIRONMENTAL PROGRAMME STATUS		ENVIRONMENTAL PROGRAMME YEAR 2016-2019	DEADLINE
	ENVIRONMENTAL PROGRAMME YEAR 2015-2016	ACHIEVEMENTS YEAR 2015-2016		
1.0a Energy	<p>To Reduce the consumption of Electricity MWh per tonne of product by 1% from 0.0505 (2014 figure)</p> <ul style="list-style-type: none"> ❑ Review the feasibility of reducing the number of production days. ❑ Build new cold store 	<ul style="list-style-type: none"> • <i>Review the feasibility of reducing the number of production days.</i> <ul style="list-style-type: none"> ○ In February 2015, the number of production days was decreased from 6 to 4. • <i>Build new cold store</i> <ul style="list-style-type: none"> ○ Cold Store, Docking and Racking installed. Two trucks that were running have now been replaced by the permanent cold store. Docking will preserve the chill chain. Racking will improve stock rotation. In addition, less movement by fork trucks will be required thus less LPG will be used. Two additional trucks are plugged in by night for deliveries. It may be possible to reduce one of these external stores. 	<p>To Reduce the consumption of Electricity MWh per tonne of product by 4% from 0.0479 (2015 figure).</p> <ul style="list-style-type: none"> ❑ <i>Carry out an energy scope audit.</i> ❑ <i>Review refrigeration management onsite.</i> ❑ <i>Review production efficiency</i> ❑ <i>Carry out EMS awareness training.</i> 	2019

ASPECT	ENVIRONMENTAL PROGRAMME STATUS		ENVIRONMENTAL PROGRAMME YEAR 2016-2019	DEADLINE
	ENVIRONMENTAL PROGRAMME YEAR 2015-2016	ACHIEVEMENTS YEAR 2015-2016		
1.0a Energy	<ul style="list-style-type: none"> ❑ Carry out an energy scope audit. ❑ Investigate the introduction of an Energy Management system. ❑ Carry out EMS awareness training. 	<ul style="list-style-type: none"> • <i>Carry out an energy scope audit.</i> <ul style="list-style-type: none"> ○ Light survey carried out and report issued re switching to LED lighting which will use significantly less energy to run. Recommendations and costs awaiting Board Approval. • <i>Investigate the introduction of an Energy Management system.</i> <ul style="list-style-type: none"> ○ Meter fitted to record LPG use. Usage now recorded on Security Log QR41. ○ Factored goods were incorporated into milk delivery trucks • <i>Carry out EMS awareness training</i> <ul style="list-style-type: none"> ○ EMS training carried out in June 2015. <p><i>Additional Information:</i> Ice is now being built on Tuesday nights for 5 hours to give enough cooling for separation on Wednesday. This means that ice building and water chilling is not being done on demand but is being done using cheaper night rate electricity rather than more expensive day units.</p>		2019

ASPECT	ENVIRONMENTAL PROGRAMME STATUS		ENVIRONMENTAL PROGRAMME YEAR 2016-2019	DEADLINE
	ENVIRONMENTAL PROGRAMME YEAR 2015-2016	ACHIEVEMENTS YEAR 2015-2016		
1.b Fuel	Not applicable	Not Applicable	<p>To Reduce fuel use per tonne of product by 4% from (2017 figure).</p> <ul style="list-style-type: none"> <input type="checkbox"/> Restructure delivery routes. <input type="checkbox"/> Build new cold Storage unit. <input type="checkbox"/> Review production efficiency. 	<input type="checkbox"/> 2019

ASPECT	ENVIRONMENTAL PROGRAMME STATUS		ENVIRONMENTAL PROGRAMME YEAR 2016-2019	DEADLINE
	ENVIRONMENTAL PROGRAMME YEAR 2015-2016	ACHIEVEMENTS YEAR 2015-2016		
2.0 Water Use	To reduce water use per tonne of product by 1% from 0.815 (2014 figure). <input type="checkbox"/> Carry out resource efficiency awareness campaign.	<input type="checkbox"/> <i>Carry out resource efficiency awareness campaign.</i> <ul style="list-style-type: none"> ○ EMS training carried out in June 2015. ○ Number of production days reduced from 6 to 4. 	To reduce water use per tonne of product by 4% from 1.027 (2015 figure). <input type="checkbox"/> <i>Review production efficiency</i> <input type="checkbox"/> <i>Carry out resource efficiency awareness campaign.</i> <input type="checkbox"/> <i>Review location of hoses within production</i>	2019
3.0 Packaging	To reduce transport damaged product to <1% of sales. <input type="checkbox"/> Improve stock rotation in cold store <input type="checkbox"/> Improve efficiency in order processing <input type="checkbox"/> Review performance with individual performers and agents and agree a reduction target.	<input type="checkbox"/> <i>Improve stock rotation in cold store</i> <ul style="list-style-type: none"> ○ New Racking installed in new cold store will improve stock rotation. <input type="checkbox"/> <i>Improve efficiency in order processing</i> <ul style="list-style-type: none"> ○ New Racking installed in new cold store will improve stock rotation. <input type="checkbox"/> <i>Review performance with individual performers and agents and agree a reduction target.</i> <ul style="list-style-type: none"> ○ Drivers and Agents informed of necessity to reduce transport damaged product and were given target. 	Note: Not a significant aspect in 2016 review of aspects. Reduction in transport damaged product included as a target in 2016-2019 programme under non-hazardous waste reduction.	

ASPECT	ENVIRONMENTAL PROGRAMME STATUS		ENVIRONMENTAL PROGRAMME YEAR 2016-2019	DEADLINE
	ENVIRONMENTAL PROGRAMME YEAR 2015-2016	ACHIEVEMENTS YEAR 2015-2016		
4.0 Non-Hazardous Waste	<p>To reduce the volume of waste per tonne of product disposed to landfill by 1% from 0.00096 (2014 baseline).</p> <ul style="list-style-type: none"> ❑ Close monitoring of all waste streams ❑ Introduce waste minimisation strategies. ❑ Investigate additional recycling schemes <ul style="list-style-type: none"> ○ Food waste ○ Soiled Bottles and cartons ❑ Review product packaging options. 	<ul style="list-style-type: none"> ❑ <i>Close monitoring of all waste streams</i> <ul style="list-style-type: none"> ○ Reduction of production days from 6 to 4 should help reduce waste generated. ❑ <i>Introduce waste minimisation strategies.</i> <ul style="list-style-type: none"> ○ New cold store and racking should help reduce waste generated. ❑ <i>Investigate additional recycling schemes</i> <ul style="list-style-type: none"> ○ Feasibility carried out on segregation of soiled Bottles and cartons. ○ Charity (Food Share) now taking product where the shelf life remaining it too short to go to distribution. ❑ <i>Review product packaging options.</i> <ul style="list-style-type: none"> ○ Changed from 1 pint carton to 568ml bottle for Lee Strand regular milk. 	<p>Objective 3.0 To reduce the volume of waste per tonne of product disposed to landfill by 4% from 0.00103 (2015 figure).</p> <ul style="list-style-type: none"> ❑ <i>Close monitoring of all waste streams</i> ❑ <i>Investigate additional recycling schemes</i> ❑ <i>Introduce waste minimisation strategies</i> ❑ <i>Review performance with individual drivers and agents and agree a reduction target of transport damaged product to <1% of sales.</i> 	2019

Table 6 Achievements (Year 2015-2016) and Environmental Management Programme (Year 2016-2019).

REGISTRATION INFORMATION

1. ORGANISATION

Name: Lee Strand Co-operative Creamery Ltd.

Address: Ballymullen

Town: Tralee

County: Kerry

Postal Code: N/A

Country: Ireland

Contact person: Jerry Dwyer

Telephone: 353 66 7121084

FAX: 353 66 7125698

E-mail: jdwyer@leestrand.ie

Website: www.leestrand.ie

Public access to the environmental statement or the updated environmental statement

(a) printed form: Yes

(b) electronic form: Yes

Registration number: IE-000008

Registration date: 25.08.2000

Date of the next environmental statement: 2020

Date of the next updated environmental statement: 2019

Request for derogation pursuant to Article 7 YES – NO: Yes

NACE Code of activities: DA10.51

Number of employees: 65

Turnover or annual balance sheet: 19.5 Million Euro.

2. SITE

Details same as for Organisation.

3. ENVIRONMENTAL VERIFIER

Name of environmental verifier: APCER – ASSOCIAÇÃO PORTUGUESA DE CERTIFICAÇÃO –

Address: O’Porto Bessa Leite Complex, Rua Antonio Bessa Leite, 1430 – 1.

Postal Code: 4150-074

Town: Porto

Country: PORTUGAL

Telephone: + 351 213 609 268

FAX: + 351 96 637 49 81

E-mail: info@apcer.pt

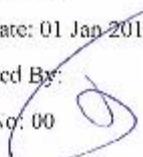
Registration number of accreditation or licence: PT-V-0001

Scope of accreditation or licence (NACE Codes): C 11

Accreditation or Licensing Body: PT-V-0001

Done at ... on .../07/2018:

Signature of the representative of the organisation: _____

 <p>Lee Strand TASTE THE FRESHNESS</p> <p>EMS MANUAL</p> <p>LEADERSHIP</p>	Section No.: 5
	Issue Date: 01 Jan 2018
	Approved By: 
	Revn. No: 00
	Page 3 of 4

5.2 Environmental Policy

Lee Strand Co-operative Creamery Ltd. regards high standards of environmental performance as critical to the efficient operation of its plant in Ballymullen, Tralee, Co. Kerry.

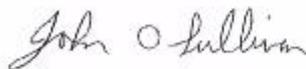
Lee Strand Co-operative Creamery Ltd. is committed to the prevention of pollution, sustainable resource use, climate change mitigation and adaptation and the protection of biodiversity and ecosystems through adhering to all relevant National and EU environmental legislation, regulations and policies, the use of best available technology as far as is practical and the ongoing monitoring of all emissions from the site.

Lee Strand Co-operative Creamery Ltd. will continually improve its EMS in order to enhance its environmental performance.

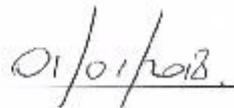
Continual improvement will be achieved by:

- maintaining a documented environmental management system which conforms to the requirements of ISO14001 and The Eco-Management and Audit Scheme (EMAS),
- using energy and water resources responsibly and efficiently throughout the plant.
- reducing the amount of waste generated.
- setting and reviewing progress of environmental objectives and targets.
- ensuring that management and employees have the knowledge, authority and resources to maintain the environmental management system and develop a sense of responsibility for the environment.
- disclosing the details of the environmental policy to interested parties where requested.
- considering the likely impact on the environment of any future capital expenditure programme.

The environmental management system was devised by and has the full commitment of senior management.



JOHN O'SULLIVAN
GENERAL MANAGER


DATE

GLOSSARY OF TERMS

BOD	Biochemical oxygen demand. (Measures the oxygen used over a five-day period for the biochemical degradation of organic material).
SS	Suspended solids. (Proportion of particulate material remaining in suspension).
pH	Hydrogen ion concentration.
FOG	Fats, oils, grease. (A measure of immiscible material).
NO_x	Oxides of nitrogen. (By-product of combustion of fuels).
SO₂	Sulphur dioxide. (By-product of combustion of fuels).
Environmental Aspect	Any element of Lee Strand Co-operative Creamery Ltd's activities, products or services that has the potential to interact with the environment.
LPG	Liquid Petroleum Gas
IBC	Industrial Bulk Container
CIP	Cleaning in Place
LFO	Light Fuel Oil
VSD	Variable Speed Drive
SME	Small and Medium-sized Enterprise
FAS	Irish National Training and Employment Agency