

Ireland & Northern Ireland

2020 Guide to Composting and Anaerobic Digestion



cré

**Composting & Anaerobic Digestion
Association *of* Ireland**

Cré is a non profit association of public and private organisations, dedicated to growing the biological treatment sector. Cré supports the production of high quality outputs, assists the delivery of Government waste diversion and bioenergy targets, and promotes the creation of sustainable indigenous jobs.

Dear Members,

It is that time of year again to take stock of the work ongoing and completed by Cré for the year. While the economy continues to boom and words such as climate change, zero carbon and carbon sequestration, not to mention compostable coffee cups, roll off the tongue in conversation like they have been everyday topics for millennium. We have been beating that drum for more years than we care to remember.

Since its conception more than 19 years ago Cré has been championing the cause of the reduction and removal of organic waste from landfill, the creation of compost products for soil amendment and in more recent years the production of green energy via anaerobic digestion facilities.

So how have we done, this report updates on five core areas of activity;

- Feedstock - promotion of separate collection of food waste for processing in. Compost and anaerobic digestion facilities, reduction of contamination in the brown bin, certification of compostable products.
- Regulation - consultation and development of fair and forwarding thinking regulation with our colleagues who have oversight in our sector such as Environment and Agriculture.
- Research and Development - Cré has been successful/ active in a number of new R&D projects end of waste standards, bioeconomy and carbon sequestration
- Education - Cré has now for the second year conducted a very successful study tour to Italy and the broad representation of participants shows the importance of such educational activity. Other successful ventures such as the kitchen caddy trials.
- New Developments - Cré Compostable Certification Scheme, a wholly owned subsidiary of Cré CLG to be known as Cré Certification Ireland DAC. Managed by a separate independent Board of Directors, Cré DAC is proud to announce that a number of market leaders have signed up to the scheme in its early days of conception and a lot of work is ongoing in this area.

I would like to take this opportunity to thank all stakeholders who have supported us throughout the year, and in particular all those members and directors who give of their time and resources, the direct beneficiary of this effort is the environment and its sustainability. We are in a unique position as a national organisation to promote a change of mindset in how waste is dealt with in Ireland, the promotion of the benefits to our ecosystem and the increased opportunity for growth of our sector is in your hands.

We wish you every success in 2020 and look forward to a successful future for us all.

Is mise le meas
Martin Eves
Chairman of Cré



The Publisher

The 2020 publication is produced and edited by the Cré – Composting and Anaerobic Digestion Association of Ireland.

What Does it Cover?

The publication lists information and contact details of organisations from the Ireland and Northern Ireland supplying services, goods and members of Cré. These include local authorities, consultants, compost facility operators, anaerobic digestion operators, waste management companies, trade and education institutions.

The Cré Team

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- ▶ David McDonnell (Green Gas AD Plant)
- ▶ Morgan Burke (Stream Bioenergy)
- ▶ Martin Eves (Envirogrind)
- ▶ Munoo Prasad (Compost Research & Advisory)
- ▶ Patrick O'Toole (O'Toole Composting)
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Chairman - Martin Eves

Treasurer - Tim Duggan

Chair of the Technical Committee -
Munoo Prasad

Chair of the Anaerobic Digestion Committee - David McDonnell

Executive - Percy Foster

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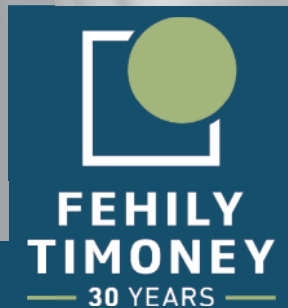
BIOWASTE MANAGEMENT

Fehily Timoney (FT) has extensive experience in the field of biowaste management. Our knowledge of biowaste management and treatment derives from the experience gained as one of the Ireland's leading solid municipal waste and sludge treatment consultants.

We employ scientists and engineers who are expert in an array of engineering and environmental disciplines. This breadth of expertise enables **FT** to offer our clients a complete service for the provision of biological waste treatment facilities. We offer a comprehensive service to developers of biowaste treatment facilities including pilot operations.

Services Provided

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- Assessment of Operational Impacts
- Construction Management
- Animal By-Product Regulations



ENGINEERING, ENVIRONMENTAL SCIENCE
& PLANNING CONSULTANCY

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COMPOST ANALYSIS

Looking after all of your composting requirements

✓ **Heavy Metals**

Cadmium, Chromium, Lead, Zinc, Copper, Mercury, Nickel, Arsenic,

✓ **Nutrients**

Total Nitrogen, Total P, Total Organic Carbon, Ammonia, Conductivity, Carbon/Nitrogen Ratio, pH, Sulphate, Chloride

✓ **Microbiological**

E Coli, Salmonella, Coliforms

✓ **Respiration Activity**

AT4 Testing, Oxygen Uptake Rate*, Weed Seed*

✓ **Physical Tests**

% Dry Matter, % Foreign Matter, % Organic Matter Loss of Ignition, % Ash

*subcontracted



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For more information contact Julian Beatty:

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Waddock Composting Facility Ltd

Overview: Operating since 2005, **Waddock Composting Facility, Ltd.** is a permitted and ABP approved composting facility utilising in-vessel batch tunnel technology to produce high-quality compost for agricultural, horticultural and gardening markets. In 2010, the facility was upgraded to increase capacity and improve environmental management systems, especially in relation to odour control. The facility utilises a state-of-the-art process control system that allows the operators to fully manage the composting process and track batches through the facility for traceability purposes. We accept all types of Non-hazardous organic waste originating from all sectors of the industry which include canteens, restaurants, food production companies and hotels.

Capacity: up to 25,000 tonnes per year

Permits & Approvals:

- Local Authority Waste Permit
- DAFM Animal By-Products Permit
- Facility can provide Certificate of Recovery if required

Contact Information:

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Website: www.waddockcomposting.ie



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CRÉ COMPOSTABLE CERTIFICATION SCHEME



cré IRELAND



"Giving confidence to Irish users that the product is compostable and accepted in the food waste bin."

This new scheme ensures that packaging/products are certified to European standards and tests them in an Irish composting plant to ensure that they compost under Irish conditions. The packaging/products if it compostable is awarded a certification that it is compostable in Ireland.

Packaging/products receiving the Cré Compostable Certification Scheme certificate gives confidence to Irish users that the packaging/products are compostable and accepted in food waste bins.

In 2019, we saw a significant development is the establishment of a wholly owned subsidiary of Cré CLG – a new company – Cré Certification Ireland DAC – a designated activity company. Its focus is the management of the Cré Compostable Certification Scheme. The company is managed by a separate and independent Board comprising Dermot O'Doherty (Chair), Elena Wrelton (Treasurer) and Dr Dearbháil NiChualainn. The scheme managers are Lyndsey Broxton O'Leary and Ruth Robertson and Eoin Bird is the scheme inspector.



L to R: Lyndsey Broxton O'Leary, Eoin Bird and Ruth Robertson

Who are we?

The scheme is owned by Cré – Composting and Anaerobic Digestion Association of Ireland, the national trade body for the sector. A wholly owned subsidiary 'Cré Certification Ireland DAC' will act as the certification body and provide certification of products.

Cré Certification Ireland DAC

INDEPENDENT DIRECTORS

Dermot P. O'Doherty, B.B.Sc., B.A., M.Econ.Sc is currently an innovation consultant. Prior to this he worked for over ten years as a senior advisor in InterTradeIreland, the North-South Trade and Business Development Body. Dermot was also a Senior Adviser in Forfás and a manager in Strategic Planning in Eolas, the Irish Science and Technology Agency.



Dr. Dearbháil NiChualain is been with Bord na Mona for eighteen years and is currently a Technical and Programme Manager leading a technical team in New Business Development. She has demonstrated a history of business analysis and review, strategy delivery, mergers and acquisitions, new product development, working in food, renewables, environmental, horticulture, aquaculture and ecology industries.



Elena Wrelton is the Environmental Compliance Manager at ELVES (ELV Environmental Services CLG) the compliance scheme for end-of-life vehicles. Prior to joining ELVES she worked for a number of years at the Ministry of Environment in New Zealand working on a range of waste and resource management issues including the operation of waste policy. She has previous governance experience as vice chair of the Amnesty International Aotearoa New Zealand Governance Team and is currently completing an MBA in Innovation, Enterprise and the Circular Economy through Bradford University School of Management.



SCHEME MANAGERS – Ruth Robertson and Lyndsey O'Leary

Ruth MEng.Sc., B.Sc has more than 25 years active experience implementing and operating quality, environmental and health and safety systems in the Pharma-chemical, manufacturing and waste industry and in providing consultancy to a range of service and manufacturing companies.



Lyndsey B.Sc. (Hons) has over 20 years implementing and operating quality, environmental and health and safety systems in semi state organisations and the private sector.



SCHEME INSPECTOR – Eoin Bird

Eoin BE (Hons) has over ten year experience working as a consultant in the composting sector in Ireland and United Arab Emirates where he has project managed research trials and the optimisation of commercial composting systems.



CERTIFICATION COMMITTEE – Henrik Lystad, Josef Barth and Dr. Billy Fitzgerald

Henrik Lystad is CEO of Norwaste (Norway) and has extensive experience and thorough knowledge of the industry from 16 years in Avfall Norge (Norwegian Waste Association) where he was a Director. He was also Chairman of the European Compost Network. Henrik has been involved in framework conditions and interest policy work in waste management and circular economy in Norway and the EU.



Josef Barth is director at INFORMA compost consultants (Germany) since 1989 and an international expert in the field of organic waste treatment, quality management, compost quality and marketing for over 25 years. His clients include governments and industrial clients all over the world. He was Executive Director of the European Compost Network for over ten years.



Dr. Billy Fitzgerald is the former Head of Environmental Science in Institute of Technology Sligo where he spent over 30 years in the development of environmental science courses including the Certificate in Compost Facility Operation.



CRÉ ANNUAL REPORT FOR 2019

EDUCATION AND AWARENESS

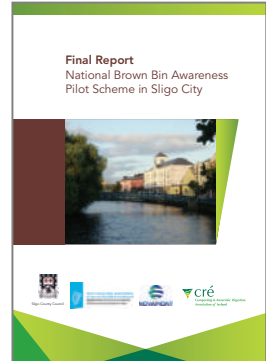
National brown bin awareness pilot scheme in Sligo City

The Sligo report was published in conjunction with Sligo County Council, Novamont and the Department of Communications, Climate Action and the Environment.

Cré published a guide for members on the new European Union Circular Economy

RED C Commercial Food Waste Survey.

RED C were hired by Cré, the Department of Communication, Climate Action and Environment, the Environmental Protection Agency, the Connaught-Ulster Waste Region, the Southern Waste Region and the Eastern –Midlands Waste Region.



Food Waste Awareness pilot schemes

In 2018, a working group on household food was formed between Cré, the three Regional Waste Authorities, the Irish Waste Management Association (Barna Recycling and Clean Ireland Recycling) and the Department of Communications, Climate Action and Environment. The group established pilot schemes on the provision of kitchen caddies to households in Ballaghaderreen (Roscommon), Trim (Meath) and Borrisoleigh (Tipperary). The so-called pilots were coordinated by Pauline McDonagh of the Southern Regional Waste Office and funding was kindly provided by the Department of Communications, Climate Action and Environment. Cré conducted a waste characterisation study on food waste in Ballaghaderreen on the effectiveness of the educational tools.

Irish Composting and Anaerobic Digestion Conference 2019 was attended by 140 people. The conference looked at the circular bioeconomy and climate benefits of compost and digestate. A full page report was published on carbon sequestration benefits of compost and was published by the Irish Farmers Journal.

Cré organised a study tour to Italy in partnership with the Renewable Energy Association (ORG) and the Bio-based Industries Association for 22 people from Canada, Scotland, England and Italy.

Certificate in Compost Facility Operation with Sligo Institute of Technology

22 people completed the course in late 2018. Minister Creed was on hand to award certificates to students in Royal College of Physicians.

Cré held a training course on Hazard Analysis and Critical Control Point (HACCP) for ABP biogas and composting sites.

Cré held a members meeting in April and a visit to biomethane upgrading plant at the Green Generation Biogas plant.



Cré held a meeting with members in February and a separate meeting with processors.

Cré and the UCD ABC Economy team held stakeholders meetings in Tipperary and Monaghan.

Cré hosted a meeting for a wide range of packaging companies on the Cré Compostable Certification Scheme and a visit to O'Toole Composting.

Cré sent regular news ezines to members throughout the year.

Regular updates for members and stakeholder were done by following Twitter accounts on Cré, the Cré Compostable Scheme, the ABC Economy and the EPA funded research project 'end of waste'

Cré did an article on compost and carbon sequestration in UK Organic Recycling Group Magazine

ANAEROBIC DIGESTION

Cré hosted three meetings with Irish Bioenergy Association (IrBEA) to discuss Anaerobic Digestion (AD) policy matters. Cré and IrBEA agreed a renewed Memorandum of Understanding to work together on policy matters.

Cré and IrBEA produce a jointed manifesto on biogas policy.

There were a number of activities held throughout the year:

- Cré & IrBEA had meetings with DCCAE & DAFM on biogas policy
- Lobbying day with IrBEA on biogas with politicians
- Cré and IrBEA joint submission on the Biofuels Obligation Scheme
- Cré and IrBEA joint submission on the Consultation of the Implementation of the EU's Clean Energy Package
- Cré's Morgan Burke chaired a biogas session at the Energy & Rural Business Show Ireland
- Cré attended the DCCAE RESS information sessions on renewable electricity



ANIMAL BY PRODUCTS

- Cré attended three ABP Forum meetings hosted by the Department of Agriculture, Food and the Marine (DAFM).
- DAFM is supportive of the Cré position on End Point for ABP in Compost and Digestate.
- DAFM is examining the Cré proposal for two new compost national ABP standards.
- Cré had a meeting with DAFM to discuss the Cré submission on Capacity in the Sector for Processing Chicken Manure.
- DAFM agreed to the Cré proposal of Where *only milk* and *cream* have been in contact with compostable materials they can go to non- Animal-by-Product green-waste composting plants.

OTHER VARIOUS MEETINGS ATTENDED

- Meeting with the Irish Bioeconomy Foundation and agreed cooperation on items.
- Attendance at the IrBEA conference.
- Waste Enforcement Industry Contact Group X 2
- McGill Summer School
- Meeting the Department of Agriculture, Food and the Marine on the EU Fertiliser Regulations
- Meeting BGK (German compost and digestate quality assurance organisation)
- Visiting Lipor Municipality, Portugal composting plant
- Attendance at SOFIE organic fertiliser conference in Brussels
- Launch in Government Buildings of the Draft Agriculture, Forest and Seafood Climate Change Sectoral Adaptation Plan

RESEARCH

To Develop National End-of-Waste Standards for Quality Compost and Digestate

Cré commenced a research project on end-of-waste standards for quality compost and digestate in Ireland. This project is funded under the EPA Research Programme 2014–2020. The EPA Research Programme is a government of Ireland initiative funded by the Department of Communications, Climate Action and Environment.



In Ireland, there are no national End-of-Waste Criteria for quality compost and digestate derived from source-separated materials. In and EPA licence for the composting and AD of plants, there is a quality standard as part of the licence, however in old licences the parameters and limit values vary considerably and in the recent licences the parameters and limit values have been adopted from the national compost standard NSAI Irish Standard (I.S.) 441:2012 for compost but also for AD plants. The I.S. 441 was not developed for AD plants and some parameters are such as stability is not suitable. This has resulted in AD plants proposing different stability measurements. In some Local Authority Waste Permits for biogas plants, there is no quality standard specified for digestate.

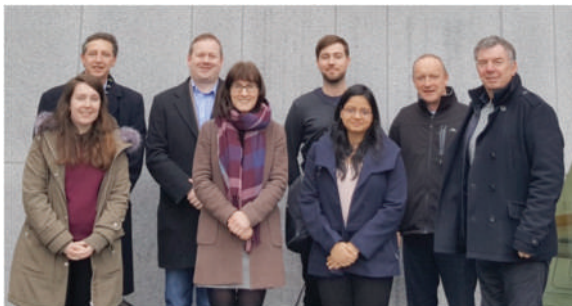
This project is examining best European practice as well as quality standards in Canada, America and Australia and will propose an approach for End-of-Waste Criteria for compost and digestate in Ireland. In addition, the project will develop a quality standard for digestate and an updated compost standard which could be used as part of the End-of-Waste Criteria.

The project findings would inform regulators and policy makers of any changes required to implement changes to quality standards in waste licences and waste permits and also what approach should be taken to develop national End-of-Waste Criteria for compost and digestate in Ireland.

Agri Bio Circular Economy (ABC Economy)

ABC Economy targets waste streams arising from food production/processing and forestry in Ireland to develop new bio-based products and generate energy. These new products and energy systems will maximise the value of wastes, whilst reducing environmental impacts.

The project led by University College Dublin with Cré and is kindly co-funded under the Sustainable Energy Authority of Ireland Research Development & Demonstration Programme with the Department of Agriculture, Food and the Marine. See www.abceconomy.ie



Cré has hired a leading Professor to conduct research to determine if there is plastic in tea bags

New Projects in 2020

- Cré, Trinity College and UCD have been awarded funding by the EPA for a three year project “*Sustainable Biodegradable, compostable and recyclable plastics for packaging and end-of- life-management*”
- Cré, UCD, TCD and the Irish Bioeconomy Foundation were successful in being recommended for funding on a biowastes project, depending on the funders resources in 2020, the project is expected to proceed.

EUROPEAN WORK

Cré is an active member of the European Compost Network (ECN) and participates in compostable quality assurance and is currently the chair of the ECN Animal-by-Product committee.

Specific European Union Policy work which Cré completed included:

- A contribution to the discussion on the new EU Fertiliser Regulations.
- Membership of the new ECN compostable plastics working group and attended its first meeting in Milan.
- Support for the ECN in developing new ABP standards for compost.
- Attendance at an ECN meeting in Brussels on the new EU Fertiliser regulations.
- The signing of the SOS initiative in order to highlight the importance of soil organic matter and to encourage policy makers to develop instruments to move Europe towards implementing sustainable, climate proof soil management practices.
- Participation in the International Compost Awareness Week with the American Compost Council, Canadian Compost Council, ECN, and the Australian Organics Recycling Association.
- The adoption by the European Compost Network of the Cré position paper on the ABP End Point for compost and digestate.

Cré co-hosted a meeting with the European Compost Network in Brussels with other QAS organisations in order to discuss the Cré research project on quality standards. The focus of the meeting was exchanging knowledge on plastic in compost/ digestate, stability and overall QAS issues.



Members of QAS Organisations from Germany, Finland, Portugal, Belgium, UK, Italy, Netherlands & Austria

CARBON COMMITTEE

Cré established a carbon committee comprising Percy Foster (Cré), Karen Mahon (OCAE), Brian Murphy (Enrich) & Julian Beatty (Nova Q). The committee is looking at carbon sequestration of compost and digestate.



MARKET REPORT

Eunomia has been hired to do a market report on the composting and AD sector.

SUBMISSIONS

Cré made the following submissions:

- The Draft Agriculture, Forest and Seafood Climate Change Sectoral Adaptation Plan
- Consultation of the Implementation of the EU's Clean Energy Package
- The Draft National Energy and Climate Action Plan
- Draft Code of Good Agricultural Practice for Reducing Ammonia Emissions from Agriculture
- The Biofuels Obligation Scheme
- Proposed introduction of new Environmental Levies
- Capacity in the Sector for Processing Chicken Manure

CRÉ 2019 IN PHOTOS



Group on the Cré Tour to Italy



Group on the Cré Tour to Italy got to drive a biomethane audi car



Minister Richard Bruton T.D. launching the Sligo report together Tony Breton, Siobhan Gillen & Percy Foster



Minister Creed giving the Cré – IT Sligo Certificate in Compost Facility Operation



Cré members visit Green Generation biogas upgrading plant



April Members Meeting



Delegates at the Cré 2019 Annual Conference



Members of Cré visiting the Lipor Composting plant in Portugal

CRÉ 2019 IN PHOTOS



Workshop in Tipperary for ABC Economy Project



Cré HACCP training course



Mary Coughlan, Deputy Timmy Dooley and Martin Eves at Cré Conference



Late-night selfie of the Cré Study Tour!



Presentation on Cré Compostable Scheme to DCCAE



Stephen Wise (Energia) Mary Coughlan, and Martin Eves at Cré Conference



Conor Murphy of RED C at launch of commercial food waste study

INSTITUTIONAL

Irish Prison Service

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The mission of the Irish Prison Service is to provide safe, secure and humane custody for people who are sent to prison. The Service is committed to managing custodial sentences in a way which encourages and supports prisoners in their endeavour to live law-abiding and purposeful lives as valued members of society.

BIM Ireland's Seafood Development Agency

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BIM, Ireland's Seafood Development Agency helps to develop the Irish Seafood Industry by providing technical expertise, business support, funding, training and promoting responsible environmental practice. Over the past decade, BIM has undertaken a considerable amount of work to drive sustainability in Ireland's Seafood Sector and the agency continues to work closely with this diverse industry and our coastal communities to ensure environmental sustainability is central to the future growth of this valuable sector.

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The Department of Environmental Science offers a number of courses at Higher Certificate, Bachelors

Degree (Ordinary and Honours), Postgraduate Diploma and Masters in the area of Environmental Science/Management and Occupational Safety and Health on a part-time and full-time basis and Applied Archaeology.

IT Sligo provides accreditation for the "Certificate in Compost Facility Operation" (Special Purpose Award, Level 6, 10 credits) which is run in association with Cré and FAS. The course provides training for operators, managers and regulators with the practical knowledge on how to compost properly, how to produce a high quality compost product and how to be compliant with legal requirements. The Department is also engaged in research at MSc and PhD level. Specialised accredited courses can be developed to suit a client's needs and delivered on a full-time, part-time or a distance-learning basis.

CONSULTANT I

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Dr Munoo Prasad was Chief Scientist in Bord na Móna up to 2006 and Group leader, New Zealand Ministry of Agriculture till 1991. Dr Prasad has carried out a life time of research on composting on a wide range of organic waste and product development from compost. He is also a specialist in soils, peat as growing medium and plant nutrition. His research led to the facilities for composting of 100,000 m³ of organic waste primarily as a peat diluent and 60,000 m³ of bark compost as a growing medium. He has been involved in five EPA funded research projects and two Rx3 (Department of Environment) AD project. He is associated with a number of national and international organisations such as the NSAI, CEN, Orbit, Teagasc (2000-2003, 2008 to present), IRCSET (2001-2006) Inst. of Technology, Carlow and Cyprus Research Agricultural Research Inst, Nicosia. He is from 2016 a Faculty Member (Special Scientist) at the Cyprus University of Technology, Limassol. He is a Reviewer of a number of leading scientific journals of waste management and horticulture. He is now

available for research and consultancy in his field of expertise.

Duncan Laurence Environmental Ltd

Coolnagee, Forth Mountain, Wexford

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w/blog. www.duncansenvironment.wordpress.com/

Duncan Laurence Environmental Ltd specialises in Irish and EU environmental and planning legislation, waste policy and regulatory compliance issues. Established in 2000, it is centred on Dr Duncan Laurence's 30+ years of experience in waste management, which includes working as a regulator in the UK and also for the Environmental Protection Agency in Ireland.

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M.F. Dineen & Co. Ltd. (MFD) was founded in 2006 by Michael Dineen and is a chartered engineering consultancy. MFD is based in Killarney; however, the company's client base extends throughout the country. MFD provides services including: planning & environmental consents, pre-contract and contract project management, cost planning, procurement & tender management, geotechnical analysis, value engineering, environmental impact assessment including full EIS, waste management advice, and a broad scope of other specialist technical advice & reporting. MFD projects include a bio-energy facility at Galmoy Mines incorporating AD with subsequent composting of digestate. Further details are available on www.mfdineen.com

Miotal Consulting

Trimragh, Letterkenney Co Donegal

Contact: Gareth Whitmore

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Start up business offering EPA & DAFM licence risk and compliance advice; ISO system implementation to satisfy EPA & DAFM conditions; Project Management

CONSULTANT II

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f. 01-6644300

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Eversheds O'Donnell Sweeney is a full service commercial law firm with a business-like approach. Based in the heart of Dublin's commercial district, our practice focuses on supporting the business growth and expansion of our clients. We advise indigenous owner-managed companies as well as international and multinational companies, banks, financial institutions and public organisations.

We work with some of Ireland's largest, most successful and progressive companies as well as many exciting and innovative smaller companies. What is really important to us is that every client receives personal attention, dedicated service and the most appropriate integrated advice. As service providers to the business community and to the public sector, we believe we can add greatest value where our advice is grounded in a business view. Our association with Eversheds International means we can provide a seamless service right across Europe, Asia, Africa and the Middle East. At local or international level, we aim to help all our clients in achieving their commercial objectives.

McCarthy Keville O'Sullivan Ltd.

Block 1, G.F.S.C. Moneenageisha Road, Galway.

t. (091) 73 56 11

f. (091) 77 12 79

e. info@mccarthykos.ie **w.** www.mccarthykos.ie

McCarthy Keville O'Sullivan Ltd. is a professional consultancy offering an extensive range of Planning, Environmental and Project Management services. Our

large multi-disciplinary team of experienced professionals have the necessary skills and expertise to successfully manage the most complex of projects. We respond promptly to their ever-changing needs by delivering a cost-effective, dynamic and quality-driven service, on time and within budget. We provide a wide range of services to both public and private sector clients. Our public sector experience spans projects completed on behalf of Government Departments, Local Authorities and State Agencies. Our services to private sector clients cross a wide range of industries, including: energy, construction, transport, tourism, commercial and residential development, education, healthcare, waste management and leisure.

CONSULTANT III

Fehily Timoney & Co

Unit 16, J5 Plaza, North Park Business Park, North Park, Dublin 11

Core House, Pouladuff Road, Cork, Co. Cork

Contact: Bernadette Guinan/James O'Neill

t. Dublin 01 658 3500 f. 01 658 3501

t. Cork 021 496 4133 f. 021 4964464

e. bernie.guinan@ftco.ie e. james.oneill@ftco.ie

w. www.fehilytimoney.ie

Fehily Timoney & Company (FTC) is a multidisciplinary consultancy specialising in the delivery of complex projects for clients, both in Ireland and internationally. We offer a total project management solution, acting as consultants from initial project planning and feasibility through to detailed design, construction supervision, commissioning and handover as well as all regulatory aspects such as planning, EIS and facility permitting & licencing.

FTC's knowledge of biowaste management and treatment derives from the experience gained as one of Ireland's leading solid municipal waste consultants. FTC has considerable capabilities in the management and utilisation of material of biodegradable origin. Biowaste, biosolids and biomass are materials that display great potential as an energy source or beneficial land additive. FTC can assist you in the most effective means of gaining the maximum resource potential from materials of this nature. We employ scientists and engineers who are experts in an array

of engineering and environmental disciplines. This breadth of expertise enables us to offer our clients a complete service for the development of composting, anaerobic digestion (AD) and mechanical biological treatment (MBT) facilities, as well as conventional and advanced thermal treatment technologies and in non-biowaste applications, including energy crops.

SLR Consulting

7 Dundrum Business Park, Windy Arbour, Dublin 14

Contact: Derek Luby / Conor Walsh

t. 01 2964667

f. 01 296 4676

e. dluby@slrconsulting.com

e. cwalsh@slrconsulting.com

w. www.slrconsulting.com

SLR is a leading international environmental consultancy with offices in Ireland, the UK, the US, Canada and Australia. SLR has over 30 professional staff based in Ireland at its Dublin and Hillsborough offices. The company specialises in waste management strategy and technologies and provides consultancy services to all the major waste management firms in Ireland and the UK as well as to many local authorities and government bodies. SLR is currently assisting a number of Irish companies with development of composting, AD and MBT facilities.

LOCAL AUTHORITIES

Carlow County Council

County Buildings, Athy Road, Carlow, Co. Carlow

Contact: Pat Connolly

t. 059 9172478

f. 059 9138098

e. pconnoll@carlowcoco.ie w. www.carlow.ie

Carlow County Council is responsible for the administrative area of County Carlow, excluding Carlow town. The Council is responsible for the planning, design and construction of many important infrastructures. These include roads, water supply, drainage facilities and certain social and quasi-social services, such as housing, fire stations, libraries, and burial grounds. It is the custodian of the environment and through its planning and environment policies seeks to enhance the county while protecting its unique character and atmosphere. It plays an active role in the development of the county's industrial, business, social, arts, heritage and cultural affairs.

Cavan County Council

Courthouse, Cavan, Co. Cavan
Contact: Conor Craven
t. 049 437 8410 Ext. 8416
e. ccraven@cavancoco.ie
w. www.cavancoco.ie

Dublin City Council

Engineering Department, Waste Management Services, Civic Offices, Wood Quay, Dublin 8
Contact: Sandra Smith
e. sandra.smith@dublincity.ie
t. 01 222 4562 f. 01 454 4830
w. www.dublincity.ie and www.dublinwaste.ie

In September 2006, Dublin City Council introduced a pilot kerbside collection of organic waste to 8,000 households. This was the first phase of the implementation of the National Biodegradable Waste Strategy in the city and helps to achieve targets set out in the Waste Management Plan 2005-2010. The next phase of the rollout began in February 2008 and to date 105,000 householders across the City have been provided with a brown bin and kitchen caddy for the collection of household organic waste and garden waste. Prior to the commencement of the collection service, each householder received a notification letter stating that they shall be receiving a new brown bin within the forthcoming days, the collection days and the charging system. Each household was also provided with an information leaflet detailing the types of waste accepted in the Brown Bin (please see attached) Furthermore, in 2008 8,287 tonne and in 2009 16,129 tonne of organic material was diverted from landfill as a result of householders using their brown bin.

Dún Laoghaire- Rathdown County Council

County Hall, Dun Laoghaire, Co. Dublin
Contact: Environmental Enforcement / Waste Management
t. 01 205 4700 e. info@dlrcoco.ie
w. www.dlrcoco.ie

Donegal County Council

Donegal County Council, County House, Lifford, Co. Donegal
Contact: Suzanne Bogan
t. 074 915 3900 f. 074 91 61304
e. suzannebogan@donegalcoco.ie
w. www.donegalcoco.ie

Fingal County Council

P.O. Box 174, County Hall, Swords, Fingal, Co. Dublin
Contact: Alain Kerveillant
t. 01 890 5000 e. alain.kerveillant@fingalcoco.ie
w. www.fingal.ie

Tipperary County Council

Emmet Street, Clonmel, County Tipperary.
Contact: Anne Peters
t. 076 1065000
e. anne.peters@tipperarycoco.ie
w. www.southtippcoco.ie

Westmeath County Council

Environment Section, Aras an Chontae, Mullingar, County Westmeath N91 FH4N
Contact: Greg Duggan
t. 044 933 2042 f. 044 938 4239
e. gduggan@westmeath.ie
w. www.westmeathcoco.ie

All households in County Westmeath, which have a regular kerbside refuse collection service, are served by a two-bin system as a minimum, with many in the larger towns and villages served by a three-bin system with separate collections of organic material, recyclable materials and residual waste. The move to pay-by-weight from July 2016 will result in a significant increase in the number of households served by a three-bin system, in line with the objectives of the Eastern-Midlands Region Waste Management Plan 2015-2021.

The Eastern-Midlands Region Waste Management Plan provides a framework for the prevention and management of waste in a sustainable manner in the Region. The three key objectives of the Plan are: Prevent waste: a reduction of 1% per annum in the amount of household waste generated over the period of the Plan. More recycling: increase the recycle rate of domestic and commercial waste from 40% to 50% by 2020. Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016.

Central to the above will be the increase in collection of organic waste from households in particular.

Wexford County Council

Environment Section, County Hall, Wexford,
Y35 WY93

Contact: Rory O'Mahony

t. 053 9196334 **f.** 053 9196045

e. rory.omahony@wexfordcoco.ie

w. www.wexfordcoco.ie

Private operators are providing a segregated household waste collection to more than 10,000 householders (2013) in County Wexford. An education awareness campaign will take place in Wexford and Enniscorthy Towns in 2014 as the Household Food Waste regulations impose obligations on householders and waste collectors in these towns and we will work closely with both to ensure compliance.

Wexford County Council actively promotes home composting and has trained 40 volunteers in composting and food waste prevention through the Master Composter training programme. 8 villages now compost their green waste and promote food waste prevention through their Tidy Towns Committees. Wexford County Council's enforcement staff is actively enforcing the commercial food waste regulations.

PROCESSOR I

Athchursail Arann CGA

Eochail, Inis Mór, Oileáin Árann, Cuan Na Gaillimhe.

Contact: Gerry Mullin

e. athchursailarann@hotmail.com

w. www.aranisland.com

t. 099/61949 **m.** 0872663419

Athchúrsáil Arann CGA is an award winning waste management and recycling company set up in 1999 to provide waste management to the three Aran Islands off the coast of Galway. In 2011 Athchúrsáil Árann received approval to operate a composting facility to comply with the animal by product regulations (COMP 19) and in 2019 Athchúrsáil Árann were awarded the Pakman Community Recycling Initiative and the Overall National Environmental Award.

Clare County Council

Physical Development Directorate

Áras Contae an Chláir, New Road, Ennis, Co.Clare

Contact: Máire Rutledge

t. 065 6846561

e. mrutledge@clarecoco.ie **w.** www.clarecoco.ie

Environment & Emergency Services Directorate incorporates green waste composting at the Central Waste Management Facility, Ballyduff, Beg Inagh, County Clare. Site telephone number 065 6836960. Fax: 065 6836959

Cremin's Farm Compost

Coolaleen, Broadford, Charleville, Co. Limerick

Contact: Maurice Cremin

t. 063 84292 / 087 130 7621

e. mgcremin@eircom.net

Green King Composting

Coolbeg, Co. Wicklow

Contact: Paddy King/Ian Browne

t. 0404 62422 **f.** 0404 68846

e. paddy@greenking.ie **e.** ian@greenking.ie

w. www.greenking.ie

Green King Composting operates a composting

facility at Coolbeg, County Wicklow. The green waste received comprises of wood wastes generated by the King Tree Service tree surgery business, garden; park waste produced during improvement, and maintenance works by landscape gardeners; grass and shrub trimmings produced by individual householders, and timber and wood waste recovered during construction and demolition works. The composting operation involves pre-treatment to shred and mix the green waste, composting in open windrows, maturation and post-treatment to remove impurities. The finished product is suitable for horticultural and agricultural use.

Limerick County Council

County Hall, Dooradoyle, Limerick
Contact: Diarmuid Sheehy
t. 061 496 402 **f.** 061 496 008
e. dsheehy@limerickcoco.ie

Limerick City and County Council operates an open windrow facility for the production of compost material at Mungret, Co. Limerick. This is located adjacent to the recycling centre. The equipment located at this facility includes a Pezzolato SM10000 mulcher and a Menart Trommel Screen. Composting operations commenced at this facility in 2006 and at present we would be processing 800 tonnes of green waste per annum. The main supply of green waste to this facility is through our three recycling centres at Mungret, Kilmallock and Newcastle West. The processed material is also mainly distributed to the general public through these three centres.

Garden Waste

Kealstown, Maynooth, Co. Kildare.
Contact: Paul Mooney
e. Paulmooney1218@gmail.com **t.** 087 2350425

Paul Mooney operate a composting and recycling facility near Maynooth, Co. Kildare.

Sligo County Council

Environment Section, County Hall, Riverside, Sligo
Contact: Pete Murtagh
t. 071 9111254. **f.** 071 911 1924
e. pmurtagh@sligococo.ie
w. www.sligococo.ie

Sligo County Council, in a partnership with Ballisodare Community Development Association, operates a green waste composting facility at Young's Quarry, Ballisodare, Co. Sligo.

Terralift Ireland Ltd

18 The Grove Market Deeping, Peterborough, PE6 8AW, United Kingdom
Contact: W. Rex Kimberley
t. 00 44 1778 380 005 Office
f. 00 44 1778 348 835 Mob
e. rex.kimberley@terralift.eu

Terralift specialises in organically built fertilisers for the sports turf market with production facilities in Ireland, Australia and China. In sourcing raw-material

needs our Irish facility engages in the composting of Food residue. The company holds the rights to a closed vessel thermophilic digestion technology [ATD], now installed at our Castleblayney, Co. Monaghan facility. The technologies incorporated in the new plant will clear incoming waste of contaminants and bio-convert the organic content to mature compost in 76 hours.

The ATD technology presents:

- a) An alternate to 'static pile' composting
- b) An efficiency leap for Anaerobic Digestion plants
- c) The ideal addition to under capacity effluent plants

PROCESSOR II

Barna Recycling

Carrowbrowne, Headford Road, Galway

Contact: Pádraig Sullivan

t. 087 6959318 f. 091 771 735

e. psullivan@barnarecycling.com

w. www.barnarecycling.com

Barna waste is a Galway based company servicing all five counties in Connacht and Athlone. Our Headquarters is strategically located approximately 4 miles outside of Galway City. The site is EPA licenced and ISO14001 accredited. It includes a composting facility licenced to process up to 20,000 tonnes annually to a European Standard. We also have Transfer Stations located in Ballaghaderreen (Roscommon), Athlone (Westmeath) and Drumshambo (Leitrim). Barna Recycling accepts domestic and commercial food waste, catering waste and green waste. Barna Recycling has a full range of commercial / domestic waste and recycling services, domestic / commercial / construction skip hire, sludge and sewerage services.

CTO Environmental Solutions Ltd

Rostellan, Midleton, Co. Cork

Contact: Aidan Stafford

t. 021 4652139/087 997 7022

e. ctoenv@eircom.net

- Compost site operators accepting greenwaste and a selection of source segregated waste in Rostellan
- Compost sales
- Consultancy service
- Shredding contracting
- Screening contracting: compost and soil
- Timber and greenwaste shredding
- Waste timber accepted at Midleton Skip Hire Facility in Midleton Cork

Custom Compost

Ballyminaun Hill, Gorey, Co. Wexford

Contact: Mark Walsh

t. 053 942 1777 f. 053 942 1059

e. info@walshmushrooms.ie

w. www.walshmushrooms.com

Custom Compost is the mushroom composting operation of the Walsh Mushroom Group and has been in business since 1979.

Please visit www.walshmushrooms.com

Envirogrind Ltd

Donegal Road, Pettigo, Co. Donegal

Contact: Martin Eves/Kevin Eves

t. 07198 61772

e. info@envirogrindltd.com

w. www.envirogrindltd.com

Established in 1997, Enviro Grind reprocesses Wood & Gypsum waste and operates an ABP approved Category 2 & 3 In-Vessel Composting Facility. Acceptable composting feedstock includes Garden & Park Waste, Kitchen/Canteen Catering Waste and Fish/Shell Fish Waste originating with Local Authorities, Landscapers, Waste Contractors, Hospitality/Catering Industries, Food Processing Factories and Fish Factories. Our product range includes Bark Mulches, Soils & Compost, Surface Covering & Coloured Wood Chip and Agricultural & Equestrian Wood Chip. Purchase and collection is available from our Pettigo site. Enviro Grind also operates a Haulage & Delivery service specialising in delivery of our horticultural products and haulage of waste and non-waste materials. Suppliers of EGRS Gypsum Recycling Systems.

GreenGas AD Plant

Dunmoylan, Shanagolden, Co. Limerick

Contact: David McDonnell/Senan Meade

t. 069 60404 f. 069 60405

e. david@greengas.ie e. senan@greengas.ie

w. www.greengas.ie

GreenGas AD Plant is a farm based anaerobic digestion facility. Located outside Shanagolden in Co. Limerick adjacent to the family farm, GreenGas AD Plant processes dairy and poultry manure and imported feedstock such as food waste and dairy sludge. The biogas produced in the anaerobic digestion process is used as fuel in a CHP Unit. The resultant electricity produced is exported to the national grid providing households and businesses with clean renewable energy. The heat generated is recycled for heating use in both Plant and the nearby poultry enterprise. The processed digestate is used on local farmland as a high quality eco fertiliser.

Ormonde Organics Ltd

Killowen, Portlawn, Co. Waterford.

Contact: Nicholas Downey

t: +353 (0) 51 567 024

e: info@ormondeorganics.ie

w: www.ormondeorganics.ie

Ormonde Organics is an Irish company that is powering a greener world by turning organic waste into energy. Every day, all over the country, our trucks collect from companies and municipal authorities. At our facilities in Waterford we use natural aerobic and anaerobic processes to break down that organic waste and generate green energy (biogas, electricity, heat) and nutrient-rich soil amendment products (compost). It's perfect sustainable processing in action: The energy helps to run the plant, the homes in our community and thousands of others via the national grid while also removing thousands of cubes of methane every day. It's not magic, it's science.

McBreen Environmental

McBreen Environmental

Lismagraty, Cootehill Road, Cavan

Contact: Damien McBreen/ Declan King

t: 049 4380174

e: mcbreend@mcbreen.ie

e: kingd@mcbreen.ie

w: www.mcbreenenvironmental.ie

McBreen Environmental provide the following services: Drain Cleaning, Septic Tank & Biocycle

cleaning, CCTV Drain Surveys, Grease Trap cleaning & maintenance contracts, Oil interceptor cleaning, Sludge Dewatering, Drain Rehabilitation services, Leak detection, Reservoir cleaning & Clean Water Tankering. McBreen Environmental operate a Sewage sludge facility and currently building a composting facility. McBreen Environmental plan to operate a inclosed vessel composting facility composting sewage sludge and wood chip.

M&T Plant Hire Ltd

Ballyeden, Davidstown Enniscorthy, Co. Wexford

Contact: Liam O'Neill

t: 053 9244654/087 2212535

e: loneill@mtplanthire.ie

w: www.mtplanthire.ie

M&T Plant Hire Ltd based in Wexford composters of sewage sludge, grease trap waste, green waste and septic tank waste.

- Drain Cleaning
- Septic Tank Emptying
- CCTV Surveying
- Composting
- Civil Engineering

Green Generation

Gorteen Lower, Nurney, Co. Kildare

Contact: Billy Costello

e: billy@costellogroup.eu

t: 087 2525231

Green Generation Ltd is a family owned company . We operate a 1 MW biogas plant in Nurney Co, Kildare. We take in all types of organic material. We have full approvals (planning permission, Dept of Agriculture approval, EPA license) and have achieved ISO standard. We operate our own collection service (waste collection permit) . We can offer a full service to all producers of organic waste who require it to be treated sustainably and in a renewable way.

PROCESSOR III

Littleton Composting

Ballybeg Composting Facility, Littleton,
Co. Tipperary
Contact: Sam Bowden
t. 0504 33721 f. 0504 33703
e. sam.bowden@pandagreen.ie
w. www.pandagreen.ie

ALG Biogas Ltd

42 Deerpark Road, Newtownstewart Co. Tyrone
Contact: Gordon Thompson
t. 00447815284448
e. gordon@algbioas.co.uk
w. www.algbioas.co.uk

Operating a 500kW Anaerobic Digester in Co. Tyrone accepting and processing food waste via a depackaging plant and producing PAS110 certified digestate.

McGill Environmental Systems (Irl) Ltd.

Coom, Glenville, Co. Cork
Contact: Heather Loughlin
t. 021 4880945 f. 021 4880961
e. hloughlin@mcgillcompost.com
w. www.mcgillcompost.com

McGill operates two state-of-the-art Composting Facilities in Cork and Waterford which are licenced by the EPA to process 40,000 tonnes per year. The Cork facility, at Glenville, is permitted by the Department of Agriculture, Food and the Marine to process 'Type 8' Animal By-Products (ABP). Organic fines, which have been mechanically separated from municipal waste, are composted in order that they can then be sent to landfill without the environmental risk associated with untreated municipal waste. The Waterford facility currently specialises in the composting of non-hazardous industrial and sewage sludge's, and other non-hazardous biodegradable materials.

Miltown Composting

Miltownmore, Fethard, Co. Tipperary
t. 052 6130815/086 2559579
e. dronan@ronanind.ie

Miltown Composting is approved to treat Animal By-Products by DAFM and is licensed by the EPA to treat 24,500 tonnes per annum. We specialise in producing high grade compost from source, separated brown bin and industrial sludge's, which is then used by local farmers and landscapers as an organic fertilizer/soil conditioner. We also treat Organic Fines which have been mechanically separated from the household black bin, enabling it to be land filled without creating harmful landfill gases whilst helping landfills reach their biodegradable waste to landfill targets. We also offer contract timber and green waste shredding and compost turning services.

OD Agri Ltd

Ballyboe, Kilsheelan, Clonmel, Co. Tipperary
Contact: Patrick O'Donnell
t. 052 33293/087 233 3429 f. 052 33867

O'Toole Composting Ltd

Ballintrane, Fenagh, Co. Carlow
Contact: Patrick O'Toole
t. 086 264 7990/059 914 8984
e. patrick@otoolecomposting.ie
w. www.otoolecomposting.ie

O'Toole Composting Ltd provides a specialist composting service for all food and organic wastes for all sectors of industry which include food production companies, waste contractors, Local Authorities, hotels, restaurants and canteens. We specialise in management of bulk food and organic waste recycling using our purpose built in-vessel tunnel composting facility in Carlow. Our facility has an Animal-By-Products licence from the Department of Agriculture, Fisheries and Food. We can provide all transport and staff training necessary to maximise full capture of all biodegradable waste.

Waddock Composting Ltd

Kilmaster, Carlow.

Contact: Barry Waddock

t. 087 7489737/0599163596 **f.** 059 916 3597

e. barry@waddockcomposting.ie

Waddock Composting has been operating an in-vessel composting facility at Killmaster, County Carlow since 2005. We accept up to 24,900 tonnes of non-hazardous biodegradable material such as catering waste, food factory waste, brown-bin foodwaste, brewing extracts green/garden & park waste and sludge for composting in a purpose built state of the art facility. The end product is a high quality compost which is utilised by local farmers, landscapers and gardeners. This facility has an Animal-By-Products Permit from DAFF (Department of Agriculture, Fisheries and Food) and is permitted by our Local Authority.

PROCESSOR IV

Bord na Mona Drehid Compost Facility

Killinagh Upper, Carbury, Co. Kildare

Contact: Greg Byrne

t. 045-439472 086-8151443 **f.** 045-439489

e. Greg.Byrne@bnm.ie

Bord na Mona Resource Recovery operates a modern state of the art tunnel composting facility at Drehid, Carbury, Co. Kildare. The facility, which has been in operation since January 2012, is licensed by the EPA and Department of Agriculture, Food & the Marine to accept 25,000 tonnes per annum of non-hazardous biodegradable materials. Our technology optimises all aspects of the composting process which results in a high quality compost end product.

Enrich Environmental Ltd

Larch Hill Stud, Kilcock, Co. Meath

Contact: Tim Duggan/Kevin McCabe

t. 01 6103672

e. Info@enrich.ie **w.** www.enrich.ie

Enrich is an award winning composting facility and product manufacturer. At Enrich we operate two composting processes, each managed by our experienced team. The first process is a cost-effective solution to handling green material in an open windrow system. The second is our in-vessel composting plant that employs state of the art technology to compost organic material. Enrich has being accredited with NSAI IS441 certification for the compost that it produces for landscape and gardening projects, land remediation and enhancing sports turf surfaces. In addition to our composting processes, Enrich now has a soil advisory service to assist clients with technical aspects of soil health and management. This service looks at key aspects of soil and tailors a program that can be used to restore or enhance a soils potential, for areas such as sport turf, grassland, commercial agriculture, and horticulture and land remediation are covered. See website for more information about our products and services. *"Healthy Soil – Healthy Plants – Health People"*

Thornton's Recycling Ltd

Kilmainhamwood Compost, Ballynalurgan,

Kilmainhamwood, Kells, Co. Meath

Contact: Francis Flynn

m. 086 8563431 **f.** 01 623 5131

w. www.thorntons-recycling.ie

Kilmainhamwood Compost, part of the Thorntons Recycling Group, is the largest fully enclosed composting facility in Ireland. The facility has just completed at the end of 2013 a new expansion phase which will allow the facility to accept a total of 40,000 tonnes of non-hazardous biodegradable material such as catering waste, green waste, brown-bin food waste and sludge for composting. It is a key component of the Northeast Waste Management Plan helping the north-east region to reach its reduction of biodegradable waste to landfill and recycling targets. The facility is licensed by the EPA, W0195-02 and Department of Agriculture, Comp-6.

The main feedstock for the facility is household Brown Bin and commercial Brown Bin/catering waste. The incoming feedstock goes through a composting/transformation stage over a period of 8 to 9 weeks to produce quality compost which is used as an organic fertilizer/ soil conditioner in commercial farming and landscaping.

Kilmainhamwood Compost also provides a delivery and spreading service for the end-user if required. In 2013 the addition of a 450Hp self propelled spreader to the fleet was a great benefit to getting compost spread within the short spreading period.

In 2007, the facility was accredited with ISO 14001, ISO 9001, and OHSAS 18001.

PROCESSOR V

Bord na Móna

Main Street, Newbridge, Co. Kildare
t. 045 439 520 f. 045 433 240
w. www.bnm.ie

Bord na Móna's mission is to be Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture, and related services. Our Kilberry composting facility in Kildare is central to our peat dilution strategy. The site is licensed to manage 96,000 tonnes of greenwaste, by-products from wood processing, brewing and other similar biomass. We are fully EPA compliant and generate some of the very best composted material in the industry. We will, with the assistance of our Research and Development department, continue to investigate new materials as potential additions to our current intake and to develop world-class innovative outputs.

Natural World Products Ltd

32 Glenside Road, Dunmurry, County Antrim,
BT17 0LH
Contact: Colm Warren
t. +44 2890 600 145 (Rol 048 90 600 145)
f. +44 2890 613 547 (Rol 048 38 353 556)
e. colm.warren@nwp-recycle.com
w. www.naturalworldproducts.com

Natural World Products Ltd (NWP) is an award-winning, locally-owned recycling company that has provided recycling services and solutions to Local Authorities and the Commercial Sector throughout Ireland since 1989. A market leader in dealing with organic wastes, the company operates two state-of-the-art recycling facilities in Belfast and County Armagh, as well as a number of Waste Transfer Facilities. Handling over 150,000T of organic waste every year, NWP's experienced management team and proven track record of consistent delivery is second to none.

FARMER DEVELOPING ANAEROBIC DIGESTION

Brugha Duffy

Gibblockstown, Stamullen, Co.Meath
e: brughaduffy@yahoo.ie
t.: 087 4170010

Currently employed as a production shift leader at Indaver waste to energy plant near Duleek and operating 170 acre beef farm part time. Wish to develop an AD plant in partnership with a large tillage and beef cattle farmer in Duleek area to process cattle slurry, high energy crops (maize, sugar beet) and food waste products. I have a higher diploma in mechanical engineering and have been working with industrial equipment for the last 14 years. Looking for guidance and technical advice in getting licence and planning approval for AD plant and developing a business plan for plant.

Padraig Dunne

Lismurragha, Errill, Co Laois.

Contact: Padraig Dunne

e: Padraigdunne82@gmail.com

t: 0504 53912 or 086 1724752

Sandford Energy Ltd

Sandford, Causeway, Co. Kerry

Contact: Timothy Leahy/Kevin Leahy

e: timothyjleahy@eircom.net **t:** 087 1380699

TRADE

BioBag International

Housveien 8 N – 1831 Askim Norway.

Contact: Rory Hogarty / Birgitte Enghave

t: +353 8 6770 0213

e: Rory@BioBagworld.com

e: Birgitte@BioBagworld.com

w: www.BioBagworld.com

BioBag is the world's largest manufacture of certified compostable bags and liners. Our retail, waste management, industrial and HORCA ranges are the consumer brand of choice in Ireland and beyond. All BioBag products are approved for use by local councils and private waste companies and conform to the European Standard: EN 13432, US Standard: ASTM D6400, Australian Standard: AS 4736 & Vincotte OK COMPOST. ISO 9007 & ISO 14001 Sales offices in 18 countries with manufacturing plants in four.

Celtic BioEnergy

Gearagh Road, Ballinacurra, Midleton, Co. Cork

Contact: Andrew Walsh

t: 021 462 1721 **f:** 021 462 1725 **m:** 086 3872139

e: awalsh@celticbioenergy.com

w: www.celticbioenergy.com

Celtic BioEnergy provides comprehensive

engineering and consulting services to the anaerobic digestion and composting industry. The company offers dry and wet fermentation technologies in addition to in-vessel and aerated static-pile composting systems depending on the type of material to be processed and the size of the facility. CBE is the sole and exclusive representatives of Bioferm Viessmann and Krieg & Fischer in Ireland and the UK. CBE can design, design/build or design/build/operate composting or biogas sites and has the ability to finance its projects.

Celignis Biomass Analysis Laboratory

Unit 4 Mill Court, Upper William St, Limerick, Ireland

Contact: Daniel Hayes / Lalitha Devi

Gottumukkala

t: +353 61 518 440

e: dan@celignis.com

e: lalitha@celignis.com

w: www.celignis.com

Celignis Biomass Analysis laboratory provides services for characterisation of feedstock for biofuel and biorefinery applications. Our services include biomethane potential (BMP), biomass composition (lignin, cellulose, hemicellulose and starch) and chemical and biochemical analysis on feedstock and digestate. Our analysis packages can help waste handlers to know the biomass potential for production of biofuel and biobased products. We have expertise working with various kinds of biomass and can customise our analysis based on the biomass type and process. A team of chemists and bioprocess specialists are available on phone or email to discuss and suggest analysis packages for your samples.

Clarke Energy

Unit 7, Newtown business park,
Newtownmountkennedy, Wicklow
Contact: John Curley, Toni Pedder
t. 0879804002
e. john.curley@clarke-energy.com
e. Toni.Pedder@clarke-energy.com
w. www.clarke-energy.com

Clarke Energy is the authorised distributor and service provider for GE Energy's Jenbacher gas engine in Ireland. The Island of Ireland including both the Republic and Northern Ireland is managed from Clarke Energy's dedicated Irish operation in Newtownmountkennedy, County Wicklow. Clarke Energy is committed to delivering high quality installations and to providing reliable, accountable, long term maintenance support for your generation equipment. GE Jenbacher gas engines can be applied to a variety of gases including biogas, sewage, landfill gas, syngas and natural gas. Our extensive experience includes an installed and commissioned base of over 2,750MW worldwide.

Down2Earth Materials

C/o STP, Unit 17 & 18, City Link Park, Forge Hill,
Kinsale Road, Cork, Ireland.
Contact: John Lynch/Peter Synnott
e: jlynch@down2earthmaterials.ie
e: psynnott@down2earthmaterials.ie
t: 00353 (0) 21 4311842 **f:** 00353 (0) 21 4311869
w: www.down2earthmaterials.ie

Down2Earth Materials have won the Repak 2014 Sustainable Packaging Award for our range of certified compostable catering disposables. We also won Cre's Outstanding Contribution to the sector Award in 2013. Our products will turn back into soil in a short period of time (typically 6-8 weeks) when they are commercially composted in the appropriate conditions. They are derived from either starch (corn, cassava or potato) or plant fibres. Low Carbon Organics Recycling means we think RESOURCE, NOT WASTE. Our environmental

criteria is COMPOSTABLE. Our products are certified to EN13432 European Standard and we continually work with Irish Composting Facilities.

Our products can be placed in with Food Waste and commercially composted here in Ireland supporting local and Irish jobs. The end result is Compost which is a valuable resource! This eco perfectionism means that our clients and consumers trust DOWN2EARTH to supply the most sustainable packaging in Ireland.

EDINA Ltd

Delaire House, Unit 4 Swords Business Park
Swords, Co. Dublin
Contact: Colin McKibbin/ Cathal Longwill
/ Alan Callister
t. 01 882 4800 **f.** 01 830 7422
e. colin-mckibbin@edina.eu
e. cathal-longwill@edina.eu
e. alan-callister@edina.eu
w. www.edina.eu / www.edina.ie

Edina is a leading supplier, installer and maintenance provider for biogas and natural gas CHP (combined heat and power) plants in the Agricultural, Food Processing and Waste Water Treatment sectors. Edina is the sole distributor in Ireland and the UK for leading efficiency MWM manufactured gas engines. Edina has over 30 years' experience providing bespoke energy solutions, Edina works closely with customers to understand and meet their requirements, from initial contact to long term maintenance support.

Haarslev UK Ltd

Haarslev House, Paddock Rd, Skelmersdale,
Lancashire, WN8 9PL. United Kingdom
Contact: Steve Baldwin/ Mike Nash
Switch Board: 00 44 (0)1965 455500
m: 00 44 (0)7786 606464
e. steve@haarslevuk.com
e. mike@haarslevuk.com
w. www.haarslev.com

Haarslev develops and manufactures a wide range of technologies for the processing of proteins, waste food, digestate and biomass. Our knowhow and industry expertise ensure solutions that fit into every step of your process, offering you true business partnership. *Together, we master your process.*

Our solutions include:

Depackaging Systems, Size Reduction, Thermal Hydrolysis, Low Temperature Belt Driers, Sterilisers, Rotary Driers, Storage Silos, Conveyors, Pumps, Thermal Oxidisers and Chemical Scrubbers.

For over a century, Haarslev has been helping the world turn organic by-products into valuable commodities we all depend on.

For more information please visit our website www.haarslev.com

earth 2 earth®

A registered brand of Thorn Environmental Ltd,
Unit 501 Northwest Business Park, Ballycoolin
Dublin 15

Contact: Myles Thorn/ Adam Thorn

t. 01 8615001 **f.** 01 8615002

e. myles@thorn.ie **e.** adam@thorn.ie

w. www.earth2earth.com **w.** www.thorn.ie

Ireland's leading Supplier of Compostable and Biodegradable products under its registered brand name of earth2earth®.

Often copied but never equalled. Our EN13432 modified copolyester/PLA films and food waste sacks are class-leading in strength, water resistance and have the ability to take hot liquids.

Our food waste sacks are the industry leader and are most suitable for commercial applications.

Other products include Paper sacks, Refuse sacks and Recycling sacks. Our ranges include Compostable, Bio-based Carbon Captured, Recycled and Low Co2. All our products are for Industrial / Commercial use and are designed to a high standard of functionality, meeting the highest international standards.

IAS Laboratories

Unit 4, Bagenalstown Business Pk, Bagenalstown,
Co. Carlow

Contact: Wendy McCall

t. 059 9721022

e. ias@iaslabs.ie

w. www.iaslabs.ie

IAS Laboratories are a soil and compost testing laboratory. They provide testing such as heavy metals, respiration activities, nutrients and much more for a range of compost facilities and ad plants. IAS Laboratories are an accredited laboratory and provide a first class testing service.

MacMachinery

Ballybegley, Newtowncunningham, Co. Donegal F93
H1W2

Contact: Gerard Mc Fadden

w. www.macmachinery.com

t. +353 87 2494908

e. gmcfadden@macmachinery.com

Mac Machinery Ltd is a supplier of all types of recycling machinery to the recycling and processing materials industry. Machines such as Ballistic Separators, Conveyors, Compost turners, Food separators, Grinders, magnets, Mixers, Screens, stump grinders, shredders, trommel screens, wind sifters and air separators.

In addition to a worldwide network for new and used equipment, MacMachinery is also providing design and installation for full turnkey systems and plants, in anaerobic digestion, composting, recycling, soil treatment and washing materials.

Novamont

Via Fauser 8, Novara, Italy. 28100

Contact: Tony Breton/Christian Garaffa

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e. Christian.garaffa@novamont.com

w. www.novamont.com

t. +44 7876200934 **f.** +44 8000664525

European Inventor of the Year 2007, Novamont SpA is a world leader in the development and manufacture of bioplastics for a range of applications called Mater-Bi®. Mater-Bi® is a family of completely

biodegradable and compostable materials which contain renewable resources of agricultural origin e.g. GM free starch and vegetable oils. Mater-Bi® is available in a range of grades each developed for the specific demands of a different application e.g. carrier bags, kitchen caddy liners, garden waste sacks and cutlery. All grades of Mater-Bi® are certified as biodegradable and compostable, according to the leading international standards, e.g. EN13432.

Nova Q Ltd

Unit B21, KCR Estate, Kimmage, Dublin 12, Ireland.

Contact: Julian Beatty (Managing Director)

t. 01-2542276 / 086 8207512

e. innovation@nova-q.ie **w.** www.nova-q.com

Nova Q Ltd helps business owners and operators in Anaerobic Digestion, Compost, Waste Water and Agriculture get the best out of their biology and biological processes. With their International suppliers and network partners they unlock value, delivering products and solutions that reflect their focus on innovation and continuous improvement.

The range of AquaClean(TM) biological products has been widely adopted in organics recycling throughout Ireland and is continuously being improved reflecting the advancement and importance of biological additions in this area.

2020 will be an important year for the introduction of the Smart Biogas Upgrade technology, as well as new ammonia capture system for recovery of ammonia from liquid sources.

NVP Energy

Unit 7, Galway Technology Centre, Mervue Business Park, Mervue, Galway.

Contact: Michael Murray

t. 087 667 7007

e. Michael.murray@nvpenergy.com

w. www.nvpenergy.com

NVP Energy has developed the first to market,

energy-positive, high-rate Anaerobic Digestion (AD) wastewater treatment process that cleans low-strength wastewater very efficiently at low temperatures (unique for an AD technology) and at a fraction of the cost of other wastewater treatment technologies. The revolutionary solution produces 90% less sludge than aerobic treatment installations and acts as a renewable energy source by generating exceptionally high-quality biogas. The production of a methane-rich biogas means it can turn wastewater treatment from being an operational cost into a new revenue stream for our customers in the global Food & Drink and Municipal wastewater markets.

WELTEC BIOPOWER (UK) Ltd

Stoneleigh Abbey Mews, Stoneleigh Abbey,

Stoneleigh, Warwickshire, CV8 2LF

Contact: Kevin Monsoon

e. info@weltec-biopower.de

t. +44 (0) 1926 217994

w. www.weltec-biopower.co.uk

WELTEC BIOPOWER is one of the world's leading enterprises in the field of stainless-steel biogas plant construction. The company has planned, developed and built anaerobic digestion plants in Ireland and UK since 2006. Today, the company has established more than 15 plants in these countries and another 300 energy plants in 25 countries worldwide. The range of customers includes businesses from the agriculture, food, waste and wastewater industries.

The strength of WELTEC BIOPOWER lies in custom-tailored design and technically mature solutions for projects up to 10 megawatt capacity. In this context, the high proportion of internally developed components is a key success factor. The company also owes its leading edge to the use of stainless steel. This enables the input of a diverse range of feedstocks, a fast and economic assembly and a consistently high quality standard – regardless of the location.

Vogelsang Ireland Ltd

Unit 3, Liosban Business Park, Tuam Rd, Galway

Contact: Mark Hughes

t. +353 91 394 570

e. mark@vogelsang.ie

t. www.vogelsang.ie

Vogelsang Ireland Ltd is an experienced partner with the biogas sector, providing specialised products for economical and efficient operation of biogas plants and an individualised service tailored to customer needs. With over 80 years experience, Vogelsang is a supplier of digester feeding systems for all types of feed stocks, positive displacement pumps, inline macerators, shredders and BioCrack cell disintegration systems. We also supply systems for applying digestate back to the land as a biofertiliser, offering our customers a complete solution package for their biogas operations. All of our products are manufactured, developed and perfected by Vogelsang, setting international standards in the biogas sector.

Zeus Packaging Ltd

Unit 500 Grants Row Greenogue Rathcoole

Contact: Amit Tanwar / David Acton

t. 01 401 8908

e. Amit.tanwar@zeus.ie e. David.acton@zeus.ie

w. www.zeuspackaging.com

CORPORATE

McCambridge Limited

Block D, Greenogue Square, Greenogue Industrial Estate, Dublin D24KW83

Contact: Michael McCambridge/ Michelle O'Toole

E:michael.mccambridge@mccambridge.ie

e. michelle.otoole@mccambridge.ie

t. www.mccambridge.ie

t. 014589744

f. 014589014

Energia Bioenergy – Huntstown Bioenergy Ltd

Huntstown Bioenergy Ltd., Huntstown Quarry, Finglas, Dublin 11

Contact: Dr Stephen Wise/ Ben Martin

t. 087 792 5812

e. Stephen.wise@energia.ie

e. Benjamin.martin@energia.ie

Energia Bioenergy is part of the Energia Group, the leading independent generator of energy within the all Ireland market. Energia Bioenergy has been established to develop and operate bioenergy plants using AD and other technologies to generate renewable energy - including electricity, gas and vehicle fuels, and renewable fertiliser. Huntstown Bioenergy in Dublin is the first plant to be developed and will start to receive during 2019 and become fully operational in 2020 providing a valuable alternative for the treatment and recycling of organic waste in the Dublin area. When fully operational the plant will treat up to 100ktpa.

CORPORATE NON-PROCESSOR

Clean Ireland Recycling

Creegh, Kilrush, Co. Clare

Contact: Brian Lyons

t. 065 905 9092 **f.** 065 905 9330

e. BLyons@cleanirl.com

e. phedigan@cleanirl.com

w. www.cleanireland.ie

Clean Ireland Recycling is a waste management company based in Creegh, Kilrush, Co. Clare providing a full range of waste management services to both domestic and commercial customers. Clean Ireland Recycling has built up a strong reputation for the provision of legally compliant and cost-effective waste management services. With a strong focus on technology, Clean Ireland Recycling was one of the first waste management companies in Europe to introduce the wheelie bin (Big Ben Bins) for the collection of non-hazardous waste. Clean Ireland Recycling investment in waste management technology reflects our commitment to the environment and to our staff of over 60 and our desire to provide the most compliant and professional waste management service.

Foyle Meats

Lisahally, Campsie BT47 6TJ

Contact: Terry Acheson

t. +44 28 7186 0691 (RoI 048 7186 0691)

f. +44 28 7186 0700 (RoI 048 7186 0700)

e. terrya@foylefoodgroup.com

w. www.foylefoodgroup.com

The Foyle Food Group is a meat-processing group which process 180k of cattle and 400k of lambs per annum. Customers are located in the UK, Ireland and Europe and include Tesco, Birdseye and McDonalds.

Can provide contact us today on 041 98 45440.

Indaver

Bakers point, Pottery Rd, Woodpark, Dún Laoghaire, Co. Dublin, A96 WT5T3, Ireland

Contact: Catherine Joyce-O'Caollai

t. + 353 1 6972896 **f.** + 353 1 2807865

e. catherine.joyce.oaollai@indaver.ie

w. www.indaver.ie

Indaver Ireland & UK is a well-established waste management company with a proven track record in managing MSW and other types of waste. In operation since 2011, Meath Waste Energy (WtE) treats 235,000 tonnes of MSW, industrial & other waste each year. Indaver also plans to develop a number of WtE facilities across Ireland and the UK, including Aberdeen, Belfast, Cork and Essex. These facilities will provide secure, cost effective and sustainable waste solutions while diverting waste from landfill and generating renewable energy. As part of the company's growth strategy we will focus on areas of energy use that are most challenging to decarbonise: heat and transport.

Klasmann – Deilmann Ireland Ltd

Killinagh, Rathowen, Co. Westmeath N91WK64

Contact: Ciaran Cuddy/ Kevin Mahon

t. 043 6676086 - 087 9094838

e. ciaran.cuddy@klasmann-deilmann.com

e. kevin.mahon@klasmann-deilmann.com

w. www.klasmann-deilmann.com/en/

Klasmann Deilmann serves the professional growing media market in Ireland, UK and Holland. We hold quality to a very high regard as growers are relying on us to ensure there mixes are correct. At Present Klasmann is a peat base company, we have been putting steps in place to reduce our dependency on peat over the last number of years. Klasmann-Deilmann Ireland have now some peat-free trials on nurseries and over the coming years would like to develop this further for the professional market.

KWD Recycling

Aughacreen, Killarney, Kerry

Contact: Séan Murphy/Brian Bruton

e. sean@kwd.ie **e.** brian@kwd.ie

t. 066632458 **w.** www.kwd.ie

Mulleady's Ltd

Cloonaugh, Drumlish, Co. Longford

Contact: Anthony Mulleady

t. 043 3324145 **f.** 043 33 24731

e. am@mulleady.com

w. www.mulleadygroup.com

Mulleady's Ltd is a waste recycling and transfer station facility operating from a 9-acre fully-EPA licensed site in Drumlish, Co. Longford licence W0169-01. The waste licence allows us to accept up to 95,000 tonnes per annum. Mulleady's Ltd employs 70 people at the facility. We are permitted waste collectors in the Midlands, Connaught, North-Eastern and Cork Regions. We are licensed to accept non-hazardous solid waste comprising domestic, commercial, industrial and construction and demolition wastes. We operate a pay-by-weight system for all our wheelie bin customers since January 2005. We also supply skips, roll-ons, compactors, separate collections for recyclables. We supply bailers for cardboard, paper and plastic wastes, and we can cater for waste and recyclables from domestic, commercial and industrial sources utilising a modern materials recovery facility.

Munster Composting

Castletownroch, Co. Cork

Contact: Gavin White

t. 063 84061/ 087 6292049

e. gavinwhiteskips@hotmail.com

PandaGreen (Panda & Greenstar)

Millennium Business Park, Ballycoolin Road, Dublin 11

Contact: David Naughton

t. 1890 500 800

e. David.Naughton@greenstar.ie

PandaGreen is Ireland's leading provider of integrated waste management solutions. We are committed to identifying and delivering waste management systems to all of our customers in our endeavour to aid in minimisation of waste and increase recycling for a better environment. We comply with all relevant environmental regulations and aim to supply a safe competitive and sustainable service with specific regards to the surrounding environment. PandaGreen provide services at each level of the waste management hierarchy with our business development spanning a range of services from education, research, composting and recycling. PandaGreen are playing a significant role in the future development and provision of Ireland's waste management infrastructure, with an expert team of staff with extensive experience in the areas of recycling and engineering, environmental impact assessment, business development and communications

Stream BioEnergy

40 Main Street, Blackrock, Co. Dublin

Contact: Morgan Burke/ Kevin Fitzduff

t. 01-685 4935 **f.** 01-2108873

e. morgan.burke@streambioenergy.ie

e. kevin.fitzduff@streambioenergy.ie

w. www.streambioenergy.ie

Stream BioEnergy is an independent, Irish owned, renewable energy development company with an emphasis on delivering infrastructure to process organic waste in Ireland. As part of a vision for a better, safer, more secure and sustainable clean energy future, Stream promotes the use of anaerobic digestion to generate renewable energy from organic

materials in a way that safeguards our environment. Stream specialises in AD project development including planning and licensing, plant design, financing and construction. Stream is independent of all technology solutions allowing for the best process design and equipment to be selected on a case by case basis. The management team of Stream has significant experience of developing and operating renewable energy and waste infrastructure projects throughout Europe.

B9 Solutions Limited

19 Point Street, Larne, Northern Ireland, BT40 1HY

Contact: William Robinson – Lead Consultant

David McKee – Director

Shane Doherty – Plant Manager, Granville Ecopark Ltd

e. w.robinson@b9solutions.co.uk

e. d.mckee@b9organicenergy.co.uk

e. shane.doherty@granvilleecopark.co.uk

w. www.b9energy.co.uk

t. +44 28 28 268 273 **f.** +44 28 28 263 380

B9 Solutions was formed specifically as environmental and renewable energy consultants within the B9 family of companies to help others implement carbon reduction strategies or instigate transitioning to a low carbon, resilient future. This may involve energy management schemes on site, but also exploring if there are viable energy efficiency or renewable energy opportunities such as wind, biomass, hydro, solar or anaerobic digestion. The team have unique knowledge and experience in green energy technology, understanding the potential and constraints of bringing renewable energy solutions to industry. We understand the legislation, the science and how to best integrate the technology into your business.

B9 Solutions provides management services for Ireland's largest Anaerobic Digestion Biowaste facility, owned by Granville Ecopark Limited.

MEMBERSHIP FORM

Contact Details	
Organisation Name	
Address	
Contact Name 1	
Contact Name 2	
Email of Contact 1	
Email of Contact 2	
Web Site address	
Tel Number	
Fax Number	
Category of Membership	

- Email a 50-100 word description of your organisation for the Cré Membership Directory to percy@cre.ie

MEMBERSHIP CATEGORIES

CATEGORY	Yearly €	DESCRIPTION
Institutional	300	Universities, colleges, hospitals, prisons
Student	100	Student membership
Consultant I	300	Sole trader
Consultant II	450	Single office
Consultant III	750	Multiple offices
Local Authority	400	
Not-for-profit	200	Charities and voluntary
*Processor 1	750	<5,000 tonnes feedstock pa
*Processor 2	900	>5,000 - <10,000 tonnes feedstock pa
*Processor 3	1000	>10,000 - <20,000 tonnes feedstock pa
*Processor 4	1200	>20,000 - <40,000 tonnes feedstock pa
*Processor 5	1500	>40,000 - <50,000 tonnes p.a.
*Processor 6	2750	>50,000 + feedstock p.a.
Trade I	500	Equipment manufacturers & suppliers.
Non- processor	400	Determined case by case
Corporate Companies	2000	Determined case by case
Farmer developing an AD plant	200	Introductory first year price

*the categories under 'processor' refer to the amount of waste to be composted/digested

Prices are ex vat at 23%

PAYMENT DETAILS

You can pay your annual membership subscription by cheque or we can invoice you directly.

Please invoice quoting the Purchase Order Number_____

BANK TRANSFER DETAILS

Account Name: Composting Association of Ireland Address of account holder: Po Box 135, Enfield, Co. Meath, Ireland Bank Name: AIB Address of Bank: Clanbrassil Street, Dundalk, Louth	Bank Code: 932450 Account Number: 66821039 BIC/Swift Code: AIBKIE2D IBAN: IE26 AIBK 9324 5066 8210 39 Reference: your name
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Please Complete this Application Form and Send to:

Cré- Composting and Anaerobic Digestion Association of Ireland, Po Box 135, Enfield, Co. Meath, Ireland. Tel: 00 353 (0)86 8129260 Email: info@cre Web: www.cre.ie

NOTES

Cré Compostable Scheme



Cré IRELAND

*Giving confidence to Irish users that
the product is compostable and is
accepted in the food waste bin.*