

ZERO WASTE ALLIANCE RELAND

One-year Strategic Plan for the Period 2025 to 2026, with a mid-term Review

1. Introduction

In previous years, Zero Waste Alliance Ireland (ZWAI) has prepared strategic plans looking twelve months ahead, which is about as far as we could envision with confidence, given the considerable uncertainty which forms the background to our activities. In early 2022, when we compiled our strategic plan for that year, we could not have imagined that within a few weeks, Russia would have invaded Ukraine and started Europe's most serious war since the 1940s; and, as a result of this conflict, oil and gas prices would have risen sharply, some essential materials are likely to enter a period of short supply, and food shortages would be a critical issue for many European and African countries.

And now, in April 2025, as we are preparing this updated strategy, Russia's brutal war on Ukraine has been continuing for more than three years, as well as the horrors inflicted by Israel in Palestine. As an environmental NGO we need to be aware of the effects of these destructive wars, and to develop both resilience and a policy of advocating against the waste of human lives,¹ the deliberate destruction of ecosystems (ecocide),² damage to protected nature conservation sites,³ widespread soil contamination and damage, and the production of

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Under threat: the International AIDS Society—Lancet Commission on Health and Human Rights; The Lancet, April 2024; https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)00302-7/abstract

² 'Ecocide' is being used as a weapon of war in Ukraine. It should be one of the crimes tried in the International Criminal Court. https://theconversation.com/ecocide-is-being-used-as-a-weapon-of-war-in-ukraine-it-should-be-one-of-the-crimes-tried-in-the-international-criminal-court-240267.

Walter Leal Filho, Mariia Fedoruk, João Henrique Paulino Pires Eustachio, Anastasiia Splodytel, Anatoliy Smaliychuk, and Małgorzata Iwona Szynkowska-Jóźwik, 2024. The environment as the first victim: The impacts of the war on the preservation areas in Ukraine; Journal of Environmental Management, 364 (2024) 121399; 14 June 2024. https://doi.org/10.1016/j.jenvman.2024.121399

extremely large quantities of waste resulting from the complete or partial destruction of buildings and military hardware.4

Supplies of agricultural fertilisers imported by Western European countries (including Ireland) from Russia have become threatened by uncertainty caused by the war and by the sanctions imposed on Russia; the cost of transporting Russian fertilizers, and the cost of spare parts for maintenance of equipment increased due to the risk of dealing with sanctioned companies; until food shortages in Third World countries (to which we have referred briefly above) forced the UN intervene, demanding that Russian fertilisers be allowed to freely enter the international market.⁵

The supply and demand for phosphate rock (important for the production of agricultural fertiliser) is more complex; reductions in the quantities of phosphatic fertiliser being produced, particularly in Lithuania, but also Romania, have caused a significant decrease in the quantities of phosphate rock being imported to Europe. Increases in local European supplies of phosphate rock, and the use of alternative sources such as processed sewage ash, stabilised manure, and digestate (nutrient-rich by-products of anaerobic digestion) became more important, offering a genuine alternative to an industry otherwise heavily reliant on imports from a few countries. Developing new sources of phosphate rock in Europe, notably in Finland (Finnish Minerals Group), Norway (Norge Mining), and Sweden (LKAB – recovering P from iron ore mining activities), is beginning to ease the problem.⁶

At the same time, almost record volumes of phosphate rock were imported during the third quarter of 2024 from Russia and Morocco. The European fertiliser industry is still highly exposed to Russian products, with about 25% of fertilizer imports, and 30% of phosphate rock imports continuing to come from Russia. Technically, the world's total phosphate fertiliser capacity is sufficiently underutilized, meaning that if Russian products were removed from the EU import

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⁴ UNDP supports innovative solution to 'war waste' in Ukraine. https://news.un.org/en/story/2024/06/1150906 and see also the story on our website about how waste is being recycled by the people of one village in Ukraine -- https://www.zwai.ie/2024/05/positive-zero-waste-news-from-ukraine-cc-yard-in-ruska-lozova-kharkiv/

Sanctions Became Fertilizer for the Growth of the Russian Economy; the more the West tries to harm Moscow, the more it affects the well-being of EU citizens. GEOFOR | Center for geopolitical forecasts; Feb 28, 2025. https://medium.com/@geofor/sanctions-became-fertilizer-for-the-growth-of-the-russian-economy-035d5ab02ad0

The EU's phosphate conundrum. Alberto Persona, Associate Director of Fertilizer Analytics, Fertecon | S&P Global Commodity Insights; 15th April 2025. https://www.phosphorusplatform.eu/images/download/Persona%20Fertecon%20SP%20EU%20phosphate%20conundrum%2015_4_2025.pdf

scene (e.g., if prohibitive import tariffs were to be deployed as proposed by the European Commission for June 2028), trade routes would simply re-adjust.⁷

An additional crisis, forming a background to our work, is that climate change, or climate chaos as we prefer to call it, was accelerating quite rapidly, bringing major changes in weather patterns which we had seen forecast more than a decade earlier. The failure of the global community (if such a community even existed) to meaningfully address the linked crises of climate change, biodiversity loss, soil loss and ocean pollution became increasingly obvious, despite a significant increase in renewable energy (primarily wind and solar) coming on stream.

Closely linked to these crises is the greatly increasing quantities of consumer goods produced, the intensifying amounts of raw materials mined, extracted and processed to manufacture these goods, and the failure globally and in Europe to ensure adequate repairing, reusing and recycling of discarded objects. The result, despite the intention of the European Union and its member states to reduce waste, is an increasing mountain of discarded materials and objects, a significant proportion of which are burned or exported.

Preparing this Strategic Plan has served to remind us that our work is more necessary than ever, that Zero Waste Alliance Ireland has survived for a quarter of a century, and that we need to look ahead for a similar length of time.

2. Responding to the Crises

In a European continent dominated by energy shortages, potential materials shortages and the adverse impacts of climate change, we continued lobbying and urging the Irish Government and its agencies to move from words to actions; and we also urged (through our social media and print media where the opportunity could be grasped) a positive narrative, practical solutions and the power of citizens and civil society organisations (CSOs) to effect change.

We provided evidence of the links between unsustainable waste production, poor waste management and climate change, and we drew attention to the need for a just and equitable transition to a climate-neutral society and economy. In our submissions, we also demonstrated the lack of integrated thinking, policy making, decision making and action between Government department and agencies.

Soil loss, exacerbated by increased periods of drought and by intense flooding, and the loss of nutrients such as nitrogen and phosphorus into surface waters

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The EU's phosphate conundrum. Alberto Persona, Associate Director of Fertilizer Analytics, Fertecon | S&P Global Commodity Insights; 15th April 2025. https://www.phosphorusplatform.eu/images/download/Persona%20Fertecon%20SP%20EU%20phosphate%20conundrum%2015_4_2025.pdf

(especially in Ireland), and this country's wasteful and environmentally damaging form of agricultural production, are subjects on which ZWAI continued to raise public and governmental awareness.

The years 2022, 2023, 2024 and 2025 to date, were active periods for us, during which we succeeded in increasing our effectiveness and role. We made increasing numbers of submissions and presentations at conferences and technical meetings, and we also participated in some large scale events, demonstrating our thermophilic food waste composter and our system for the production of struvite (a phosphatic fertiliser) from human urine at the Body & Soul Festival in June 2022 and June 2023, and presenting an information stand at the 32nd Irish Environmental Researchers Colloquium, Environ, also in June 2022, at the Ulster University campus in Belfast.

In 2024, we were selected as the only environmental NGO to have an information stand at the Coldplay Concert in Croke Park (in front of 80,000 people!), and we also had a presence at Electric Picnic. We were also funded by the Irish Environmental Network to send two delegates to the UNFCCC CoP29 meeting in Baku, Azerbaijan; and we were one of the few Irish environmental NGOs invited to meet in Dublin on 18 September 2024 a delegation from the European Commission to discuss Ireland's implementation of the Nitrates Directive. This invitation was a response to a submission we made in March 2024 in reply to a public consultation on the EU Nitrates Directive, and it gave us an opportunity to discuss this country's ongoing environmental challenges, particularly concerning nitrogen pollution and its broader impacts.⁸

In addition, we continued pursuing our two major projects: testing and operating a composter for discarded food waste (see section 5.10.1 below), and further development of a system for the extraction and utilization of phosphorus from human urine (see section 5.10.2 below). Other short-term projects were also completed (see section 5.10.3 below), and further projects planned (5.10.3.3 and 5.10.4).

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See our report entitled "Addressing Ireland's Nitrogen Crisis: Insights from our Meeting with the EU Commission".

3. FORMING OUR STRATEGY FOR THE YEAR TO March 2026

Learning from the background and experience briefly described in sections 1 and 2 above, and taking into account the likely changes in our operating environment in the near future, we have developed a strategy for the remainder of 2025, and to March 2026, the principal elements of which are:

- i) strengthen and develop our capability to accomplish our aims and objectives as an environmental organisation;
- ii) continue our current activities, but at an increased level;
- iii) continue growing our membership, by means of organic steady growth;
- iv) improve our outreach to members of the public through social media;
- v) continue to work with the European Environmental Bureau (as a full member of the EEB), and develop links or partnerships with other Non-Government Organisations (NGOs) in Ireland and in other European Union Member States, especially with similar environmental NGOs which share our aims and objectives;
- vi) become more international in our outlook;
- vii) develop and implement a number of achievable and manageable projects consistent with our aims and objectives, either on our own or in partnership with other organisations;
- viii) continue to make submissions in support of our goals and objectives; and,
- ix) seek additional or further sources of funding, while maintaining our status as a charity and a non-for-profit company limited by guarantee.

These broad elements enabled us to provide a more detailed strategy, of which we provide an overview in section 4 below.

4. OVERVIEW OF OUR STRATEGY FOR THE YEAR PERIOD APRIL 2025 TO MARCH 2026

- i) Establish our distinct voice as a research and policy NGO;
- ii) Develop our national and international network;
- iii) Take stock of members' skills to form sub-working groups on specific areas to inform research topics and activities, and to strengthen our areas of competency.
- iv) Give attention to proactive rather than reactive activities by committing to some two or three research projects for this strategy period.

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- v) Establishing a quarterly theme that will largely inform our research and media activities, with these themes to be decided annually.
- vi) Expand our national and European network by strengthening our communications with like-minded organisations to collaborate on projects, form partnerships, collectivise similar actions and source funding.
- vii) Diversify our funding base, while maintaining our status as a charity and a non-for-profit company limited by guarantee.
- viii) Appoint individual board members, or small groups comprised of board members and ordinary members, to oversee the progress of objectives in the following areas:
 - a) Developing a national network;
 - b) Developing a European network;
 - c) Investigating funding opportunities;
 - d) Establishing sub-working groups;
 - e) Identifying research opportunities; and,
 - f) Conducting a review of the strategy.
- ix) Improve our outreach to members of the public through social media, and by better utilisation of print and other media.
- x) Continue to make submissions in support of our goals and objectives.
- x) Review and evaluate this strategy prior to the development of the next strategy (section 6 below).

5. PRINCIPAL ELEMENTS OF OUR STRATEGY

We have listed these as including: establishing our distinct voice, membership, capacity building, governance, advocacy, national and international outreach, website and social media, funding and finance, projects and specific activities.

5.1 Establishing Our Distinct Voice

Zero Waste Alliance Ireland is in a unique position to frame itself as one of Ireland's primary research and policy NGOs within the circular economy and zero waste sphere. ZWAI is not the only NGO to focus its operations around the principles of the circular economy and waste eradication; however, following a brief market analysis, we identified a gap in this area for a dedicated research and policy voice. As ZWAI's operations thus far have primarily concentrated on policy analysis and advocacy, there is not much change required. There are three primary elements to this goal.

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- 1. Research projects: aim to publish at least two research project reports or studies during the strategy period 2025-2026;
- 2. Establish a balance between proactive and reactive policy submissions; and,
- 3. Continue to produce submissions and observations in response to Irish and European Commission public consultations.

5.2 Membership

During the most recent decades, we have slowly and organically increased our membership; for example, in 2022 we had 26 members, and this number increased to 35 in 2023, and reached just over 50 members in the first quarter of 2025. It is not part of our strategic plan to become a large organisation with a considerable number of members; instead, we intend to attract or invite new members whom we consider will provide support or contribute to our on-going and future activities by giving their time, expertise and energy.

Our membership strategy for the next year includes:

- a) growing our membership, by means of organic steady growth, to a maximum number not yet determined, but likely to be between 50 and 60;
- b) identify a few locations where a sufficient number of members would be able to form a local group, so that the local group would be able to attract financial and other support from the relevant County Council's Public Participation Network;
- c) improve our outreach to members of the public through social media (this aim has been partly accomplished by setting a up a members group on WhatsApp; this has been quite successful in encouraging discussions on a variety of issues, but we need to increase the number of members who actively participate in this group); and,
- d) take steps to ensure better attendance at members' meetings and at the AGM.

5.3 Capacity Building

Considering the number, experience and relevant skills of new members who have joined ZWAI over the last number of years (section 5.2 above), it is important to identify our core skills, and encourage members who have these skills to participate in our work. This approach will help to focus our efforts and strengthen our capacity as a voluntary organisation. There are three core elements to this aspect of our strategy: taking stock of our community of

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members, increasing the extent of in-person engagement among our members, and establishing expert subgroups of members.

1. Taking stock and nurturing our community

It is important that we look inward to develop our community of members and identify our strengths as an organisation. The primary aim of this activity is to collect information on our members' background, experience and interests. Additionally it would be helpful to find out how members would like to contribute to ZWAI and how they might like to engage with other members. To carry this out, the members feedback form will be updated and sent to current members. Additionally, the application form is to be reviewed to ensure that it captures this information going forward.

2. Increasing the extent of in-person engagement

An in-person meeting for all members is to be organised at least once a year in a destination that is easily accessible. This in-person meeting will allow members to develop stronger connections and encourage further engagement.

3. Establishing expert subgroups

By identifying the strengths and skills of our members we can begin to group members who share similar interests or focus' for research and policy analysis purposes. This will allow ZWAI to outline its specific competencies going forward and encourage targeted engagement from members. WhatsApp groups will be established for each subgroup to facilitate communication between members.

5.4 Governance

Governance and management of civic society organisations, including Non-Government Organisations (NGOs) like ourselves, has come under increasing attention by the Charity Regulator, the Companies Registration Office (CRO) and the European Commission in its role as a funding agency.

For example, the EU General Data Protection Regulation (GDPR),⁹ which has been in force since 2016, requires us to be accountable for, and to maintain an adequate level of control over, personal data (primarily data on our members) which we maintain as an organisation, and to be able to demonstrate compliance with the Regulation.

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⁹ The General Data Protection Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.

Zero Waste Alliance Ireland has been registered with the Companies Registration Office (CRO) since 2004 as a Company Limited by Guarantee; our Constitution has been approved by the CRO; we must also seek approval of any changes we make, advise the CRO of any changes in the company's officers and directors; and of course we are required to submit our annual financial accounts (Annual Returns) to the CRO.

As a registered charity, we are also conscious of the need to ensure compliance with the Charities Governance Code, to submit our annual financial accounts, and to provide evidence to the Charities Regulator that we have held a Board meeting to approve of our annual report (Compliance Record) to the Regulator. Our Board members are, in effect, Trustees of the charity, and are required to indicate their awareness of the duties and responsibilities of a charity trustee under the Charities Act 2009.

As a regular contributor to public consultations by the European Commission, we are also included in the EU Transparency Register as a Company Limited by Guarantee (not-for-profit company) and an environmental NGO, based in Ireland.

On 31 March this year, the EU Court of Auditors issued a comprehensive report on non-governmental organisations (NGOs) which are financed from the EU budget – for example, during the period 2021-2023, the European Commission reported awarding €4.8 billion to NGOs – and the European Parliament has called for greater transparency and accountability of this expenditure.¹⁰

The Auditors' report found that important aspects of the status of an NGO were not checked, NGOs' key transparency requirements were not verified, and the Auditor's expressed concern that some NGOs were pursuing their members' commercial interests.

The EU Court of Auditors report made a number of recommendations, including a strengthening of verification of recipients' (including NGOs) compliance with EU values, establishing a more accurate definition of an NGO, and improving the quality of information about EU funding of NGOs, and how the funds are spent. Even though ZWAI is not currently a direct recipient of EU funding, and the recommendations of the Court of Auditors will not be implemented for a couple of years, it is our intention to consider these recommendations and to address those which are applicable in our strategy for 2026.

As an environmental NGO, making observations on public policies, or seeking modification of any public policy or of any public programme, Zero Waste Alliance Ireland could be considered as a lobbyist under the *Regulation of Lobbying Act*

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Transparency of EU funding granted to NGOs. EU Court of Auditors, Special Report 2025-11; 31 March 2025.

2015, as amended. We have not yet registered ourselves under this Act, and it is one of our aims to consider registering in 2025.

In order to ensure compliance with the above governance requirements, Zero Waste Alliance Ireland is managed by an annually elected Board of 7 members including one Board member who functions as Company Secretary; while our financial affairs are managed by two Board members (Hon. Treasurer and Vice-Treasurer). The Board includes two of the original founder members (from 2004), together with five other members who have joined the organisation in more recent years; and it is an element of our on-going strategy to encourage and select younger members to join the Board, in order to provide new ideas and energy.

In order to strengthen our governance, we produced in 2021 (updated 2022 and 2024) a comprehensive Code of Conduct for members, with particular application to Board Members, and we intend to revise this Code of Conduct when necessary, as part of our strategy.

5.5 Advocacy

Advocating and raising public awareness of "Zero Waste", recycling and the circular economy are among the principal issues on which we campaign; others include but are not limited to:

- i) waste reduction and elimination;
- ii) reusing and repairing (including repair cafés);
- iii) recovering materials from waste streams (for example, the recovery of nutrients from wastewater, phosphorus from urine);
- iv) protection of soil health, given that soil is an increasingly scarce and essential resource which must not be wasted;
- v) saving and using rainwater and grey water in domestic dwellings and other buildings;
- vi) elimination of toxic materials from buildings;
- vii) the use of natural sustainable and recyclable materials for building construction;
- viii) careful deconstruction instead of demolition of buildings;
- ix) raising awareness about the harmful effects of burning discarded and potentially recyclable materials;
- x) introduction of deposit and return schemes; and,
- xi) the need for legislation which would enable and encourage these practices.

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Our advocacy strategy for the next year includes:

- a) continue making submissions to the Irish Government and the European Commission in support of the circular economy;
- b) maintain our membership of government advisory organisations; and seek membership of other advisory bodies, so that our message may be amplified and leveraged;
- c) propose to the Irish Government the necessary policies to reduce the amounts of waste generated;
- d) present our policy proposals and research to business and enterprise leaders at national sustainability, building, construction and design conferences; and,
- e) run a thematic campaign per quarter this can begin as research/social media theme with a possible research component facilitating a more proactive approach to our operations. This quarterly theme is to be decided annually.

5.6 National and International Outreach

While essentially an Irish organisation, with a base and principal membership in Ireland, ZWAI has always considered that our role must include a European dimension, if only for the reason that nearly all of the Irish legislation on waste and the circular economy has come about as a result of the necessity to comply with EU directives. We also consider that a European dimension is important for the realisation of our objectives, especially by learning and exchanging ideas and information through contact with environmental NGOs in other EU Member States. There is strength in numbers both at a national and international level. To this end we intend to nurture our existing network while also expanding it further.

Our national Strategy for the next year includes:

- i) Develop an active working partnership with one or two national organisations. (for instance FoE Ireland, Voice, Crann, CAN Ireland), and the initial steps to achieve an active working partnership are:
 - 1. Meeting to establish working relationships¹¹ and expectations;
 - 2. Social Media announced partnerships on both sides; and,
 - 3. Website presence on both sides.

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An active working partnership is defined here as a bilateral recognition of involvement with active collaborative work on projects, open communication and mutual understanding. These partnerships should be mutually beneficial and consolidate around shared values.

- ii) Consider partnering with universities or research institutes to collaborate on research projects; and,
- iii) Look for potential members (or organisations with which we could develop working kinks) in Northern Ireland, with the longer-term strategic aim of ZWAI becoming an All-Ireland NGO.

Our international outreach strategy for the next year includes:

- a) continue to work as an active member of the European Environment Bureau (EEB), through our membership of the Built Environment Working Group and the Waste Working Group of the EEB;
- b) become a member of Zero Waste Europe (ZWE), and participate in the work of ZWE when possible;
- c) develop links or partnerships with Non-Government Organisations (NGOs) in other Member States, especially with similar environmental NGOs which share our aims and objectives; namely CAN International;
- d) develop our relationship with the Irish Green Building Council (IGBC); and, through this organisation, create a relationship with the world Green Building Council; and,
- e) look for European Union funded projects, and for potential partners in other Member States, which will enable us to participate in waste-related or circular economy projects funded under EU programmes.

5.7 Projects, Submissions and other Activities

- a) Begin to write small scale research papers (our aim is to write 2 or 3 in the first year). These could be submitted to relevant academic journals to help drive information dispersal. Examples include:
 - i) In the months/weeks between consultations we could attempt to gather a few members to put together 10-15 page research papers on topics such as environmental psychology looking into the psychology behind adverse reactions to zero waste operations and looking at it from an Irish context how might this be avoided.
 - ii) Literature review summary of waste reduction policy in Ireland how far it has come since waste reduction policy has been introduced.
 - iii) Looking into the effectiveness in the CSRD in reducing waste associated with companies and corporations.

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- b) Establish the monthly task of checking eTenders: http://etenders.ie for relevant opportunities.
- c) Under the topic of getting the most out of our submissions going forward: Follow up consultation with a brief summary report. This will;
 - 1. Inform us of the contributions made by other parties
 - 2. Track updates to follow the impact of our work.

5.8 Website and Media

Our integrated Media Strategy (social media, print, radio and other avenues of communication) aims to harness the power of combined media to reach a broader audience, communicate our goals, and attract new members and followers. We focus on using these platforms to connect with our audience, enhance our public image, share news and efficiently achieve ZWAI's key objectives.

We plan to optimise digital channels like Instagram, Facebook, and LinkedIn to increase brand awareness, engagement and to grow our membership. We aim to do this in the following ways:

Using social media more effectively to raise environmental awareness, encourage engagement and showcase ZWAI's core values of integrity, inclusivity, and sustainability. The key goals for this are:

- Increase visibility and engagement.
- Grow and retain membership.
- Position ZWAI as a trusted community advocate.
- Drive website traffic.

SWOT Analysis:

- Strengths: Credibility in policy-making.
- Weaknesses: Limited digital presence, little to no engagement.
- Opportunities: Rising demand for knowledge.
- Threats: Misinformation and online trolling.

The use of a "Content Calendar" will help to plan more consistently and will vary our content within blogs, social posts, videos, and webinars.

Future Strategies to consider as part of this:

- Utilisation of paid advertisements for greater visibility.
- Influencer partnerships to expand reach.

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Crisis management plan to handle issues professionally.

Metrics: Track performance via Google Analytics and Meta Analytics.

Print Media will complement digital outreach through articles, reports, and partnerships with print publications.

5.9 Funding and Finance

The Irish Environmental Network (IEN) is the principal source of our year-to-year core financial support, without which ZWAI would not continue in its present form, and we are very grateful for this continuing support. IEN obtains its annual funding from the Department of the Environment, which manages the former Environment Fund, which has now become the Circular Economy Fund.

In mid-2023, the Minister for the Environment increased the levy on landfilling from €75 per tonne to €85 per tonne of landfilled waste, and has introduced a new levy of €10 per tonne on incinerated or mass-burned wastes, providing a strong indication that our annual funding is secure, though the amount we receive depends on the evaluation of our work by IEN. However, ZWAI has considered for many years that our reliance on a single source of financial support entails a certain degree of risk, and therefore other sources of funding should be sought.

Our financial strategy for the next two years includes:

- complying strenuously with the requirements of the Irish Environmental Network when making our annual application for the following year's funding, to ensure that IEN is made fully aware of the quality and range of our work;
- b) making it possible for potential donors to donate to ZWAI using a link on our website;
- c) actively seeking other sources of funding, including EU project funding, such as the EU Just Transition Fund scheme, launched to assist the development of a sustainable bioeconomy in Ireland (this scheme includes a Bioeconomy Demonstration Initiative scheme in the Midlands region);
- d) keeping in touch with the Environmental Protection Agency, the EU LIFE programme, and other potential sources of income;
- d) seeking additional or further sources of funding, while maintaining our status as a charity and a non-for-profit company limited by guarantee; and,
- d) maintaining a careful watch and control of expenditure, without restricting our ability to fulfil our aims.

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5.10 Projects and Specific Activities

5.10.1 Research and Demonstration Project – the ZWAI Food Waste Composter

One of our most valuable assets is a medium-size composter which utilises thermophilic bacteria to transform discarded food items into a usable compost; we now have good understanding of how best to operate the composter, despite a number of inherent design problems which have initially restricted its use. For example, we constructed an insulated cover for the composter so that it can be used outdoors at festivals and other events.

Our strategy for 2025-2026 is to demonstrate the discarded food composter at music festivals or other suitable locations where its use can be shown to a large number of people, as an awareness-raising activity.

In the longer term, provided that the machine can be re-engineered or modified to remove a number of other problems associated with its operation, we intend to lease this composting machine to a suitable non-profit or charitable organization (such as a school or hospital), to reduce their waste food disposal costs and to avoid greenhouse gas emissions by having to transport food waste. This aim, if successful, will provide ZWAI with additional income.

5.10.2 Long-term Research and Demonstration Project – Urine to Struvite Process for Recovery of Phosphorus

This research project has been actively pursued during 2024 and early 2025, including automation and refinement of the process (addition of magnesium salt as a solution, instead of a solid), and we have begun discussions with a small number of community groups which have expressed interest in hosting the process. If successful, this strategy would compensate for the unsuccessful attempts we made to form a partnership with Cloughjordan Ecovillage (2022-2023) and with Sonairte (2023-2024), and our application to the Department of Agriculture, Food, and the Marine for project funding under the Bioeconomy Demonstration Initiative scheme (part of the Just Transition Fund scheme in the Midlands region), in partnership with the Dundalk Institute of Technology (DkIT).

Our strategy for the potential phosphorus recovery project for the next year includes:

- a) continue discussions with community groups which have expressed an interest in hosting the process;
- b) continue testing the domestic-scale struvite production process, including analysis of the struvite produced, analysing the spent or remaining urine

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- after it has passed through the struvite production unit, and testing the fertiliser properties of the struvite produced;
- c) demonstrate the process at a festival to be held in Ballinasloe, County Galway, in mid-2025;
- continue in our attempts (unsuccessful to date) to lobby and obtain support for phosphorus recovery projects from Government departments and ministers;
- e) establish contacts with research groups and communities in EU Member States and other countries which have been developing or operating community-scale phosphorus recycling system from separated urine, especially those with a concern for future global food security; and,
- f) provide evidence that the phosphorus content of domestic and community wastewater discharges, can be significantly reduced, resulting in less eutrophication of streams, rivers and lakes.

5.10.3 Shorter-term Research Projects

5.10.3.1 Pharmaceutical Blister Packs

In 2022, our intern, Georgios Vrampas, a Masters Degree post-graduate at UCD, conducted a research project on the recyclability of blister packs. These packs are a significant and difficult waste because to their composite nature, making them non-recyclable. Georgios interviewed pharmacists, researched the activities of the pharmaceutical industry, and investigated potential alternative packaging for pharmaceutical products.

Our strategy for the next year includes leveraging this research to urge the industry and policymakers to implement a deposit and return system.

5.10.3.2 Comparison of Waste Management and Disposal Practices in Ireland and Three Other EU Member States

During the summer of 2023, we hosted Nikita Urquhart, a student from UCD's MSc in Environmental Policy, for an internship. During her time with us, she conducted an outstanding research project, in which she analysed waste practices in Ireland, comparing them with those in other European countries, and examining waste-related policies. In addition to her research, she also created content for our social media platforms. Now that her internship has concluded, we intend to utilise her research findings in the last quarter of 2023 and in 2024 for our blog posts, social media updates, and advocacy efforts.

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Our strategy for the next year includes using the results of Nikita's research to make submissions to the EU and the Irish Government on waste management and to publicise her research results on our website and social media.

5.10.3.3 Future short-term Projects; use of Interns to Undertake Research Projects

Learning from the success of the two projects mentioned briefly in sections 5.10.3.2 and 5.10.3.3 above, our strategy is to continue engaging with UCD, DCU, the Technological University of the Shannon (one of our members is a senior lecturer in TUS, based in Athlone) and other third-level educational institutions, with a view to finding and hosting more interns, and to undertake similar projects to enhance our understanding of the waste industry and to educate both ourselves and others.

As part of our strategy, we are open to hosting interns from various colleges across Ireland and are proud of our successful collaboration with UCD students within recent years.

5.10.4 Seminars and Courses

In May 2023, one of our directors, Jack O'Sullivan, gave a presentation on the benefits of agroforestry at the Tracton Biodiversity Group's Collaborative Agroforestry Seminar in May 2023; one of the event's organisers was ZWAI director, Jack Coffey.

It is our intention to work more closely with like-minded organisations so that we can create more useful connections and become more involved in a wider range of waste-related activities. For example, we have been discussing the possibility of a collaborative online webinar with Zero Waste North West, and we will explore further possibilities in 2025.

5.10.5 Presentations and Submissions

During 2022 and 2023, we made a total of 19 submissions and 7 presentations at conferences or technical meetings. We made two presentations at the National Sustainability Summit in February 2023. In 2024, we made a total of 7 submissions in response to public consultations, and 2 presentations to a school and to a university on topics of waste and sustainability.

In March 2025, our researcher and administrator, Órla Coutin, assisted by Jack O'Sullivan, gave a presentation on the unnecessary waste generated by Ireland's food production, distribution and marketing system to staff members of the Department of Further and Higher Education, Research, Innovation and Science. The presentation attracted favourable comments from the Department's staff.

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All of these submissions and presentations are available on our website.

Making submissions and presentations is one of our principal activities, and it is our strategy for the next year to continue making high quality submissions in response to Irish and European Commission public consultations, and to deliver PowerPoint presentations on waste-related topics at suitable conferences and meetings.

Further topics to be considered for future presentations include rainwater harvesting; recycling of "grey water" in buildings; recovery and recycling of phosphorus; recovery of usable materials from refurbishment of buildings or from 'end-of-life' buildings (introducing circularity in construction – deconstruction instead of demolition).

6. Review and Evaluation

Updates on the implementation of the strategy will be provided at board meetings during 2025 and 2026; and the strategy will be reviewed annually, before we embark on the production of our next strategy. To disperse the workload, each board member will be given the responsibility of overseeing a particular element of the strategy. This will entail:

- a) overseeing the achievement of the agreed objective;
- b) updating the board on progress; and,
- c) providing a progress report on that element prior to the review of the strategy.

6. A Brief Look Ahead

Overall, we see no reason why Zero Waste Alliance Ireland should not continue to become a more effective environmental NGO dedicated to advocating the concepts and practices of Zero Waste and the Circular Economy.

Furthermore, it has long been our policy that the wasting or discarding of substances, materials, manufactured objects and products of every description; and especially their end-of-life fate by incineration or landfilling, resulting in the continuing extraction and processing of yet more raw materials to replace them, have significant detrimental effects on the Earth's climate. Not only must discarded materials be replaced in the continuing cycle of production, but the processes of extraction, transformation, transport, processing, manufacturing and distribution require yet further energy which could be used more beneficially or avoided completely.

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Widespread failure to recover, re-use and recycle discarded substances, materials and products, is a symptom of our European-wide and Irish failure to implement the Circular Economy, with a resulting increase in greenhouse gas emissions, serious damage to ecosystems, major loss of biodiversity, changes in sea level, stronger and more frequent storm events, threats to the security of food supplies, damage to human health, and other adverse consequences of climate change.

Finally, we believe that our goals and strategy are in line with, and in compliance with, the sustainable development goals (SDGs) adopted by the United Nations, and therefore our strategy can contribute to making the world a better place for human societies and the other living organisms on which we vitally and ultimately depend.

Craig Tobin-Dower

Jack O'Sullivan

Board member and Company Secretary

Founder member and director

Zero Waste Alliance Ireland

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