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Deliverable 3.2 – Lessons learnt from the General Action Plan

Author(s):	*Pilar Zapata, BIOAZUL S.L.*
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Coordinator:	*Prof. Erik Meers, Ghent University*
Contact details:	*erik.meers@ugent.be*

Table of Contents

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Abbreviations

DoA – Description of the Action (in the NOVAFERT Grant Agreement)

EC – European Commission

EU – European Union

GAP – General Action Plan

LFA – Logical Framework Approach

PEST – Political, Economic, Social and Technological

RSAP – Region Specific Action Plan

RSAPs – Region Specific Action Plans

RWGs – Regional Working Groups

SWOT – Strengths, Weaknesses, Opportunities and Threats

WP – Work Package

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Executive Summary

The objective of this document is to define a General Action Plan to overcome barriers and to pave the way for the use of alternative fertilisers. This plan is aimed to include the key aspects and general guidelines that will be further completed by the regions in the Region Specific Action Plans (RSAPs).

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1. Introduction

One of the main objectives of NOVAFERT project is the development of a portfolio of support policies and legislative instruments suitable for local deployment in the EC regions through 7 specific action plans and 4 policy briefs. The objective is indeed the main outcome of WP3, namely "Supporting policy formulation to overcome existing barriers and implementation alt local and EU level", and will be achieved through the successful implementation of five tasks, Being the present General Action Plan (GAP) related to the following ones:

- Task 3.2: Development of a general strategy (Action Plan) to overcome the barriers (May 2023 – December 2023).
- Task 3.3: Development or 7 region specific Action Plans for fast uptake of alternative fertilising products (December 2023 – October 2024).

It is then crucial we clarify the links between these tasks and define a common framework for the development of the action plans.

2. General Framework

Answers are needed for the following questions:

- What is an action plan?
- What is the difference between the General Action Plan (GAP, task 3.2) and the Region Specific Action Plans (RSAPs, task 3.3)?
- What should be the structure of our action plans in the project?
- How do we involve key actors (out of NOVAFERT consortium) in the development of action plans?

2.1. What is an Action Plan?

An Action Plan is a document providing details on how the lessons learnt from the cooperation among the project consortium will be exploited in order to enhance the use or alternative fertilising products containing recovered nutrients from 6 different waste streams in 7 different EU regions.

It specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs (if any) and potential funding sources (if any).

In other words, it is a structured set of objectives, results, actions and activities outlining the pathway to reach one or more goals.

The action plan may include the following information:

1. General information: partners involved, countries/regions involved.
2. Action plan context: who/what does the action plan aim to impact, name of instruments to be addressed.

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3. Details of the actions envisaged: background (description of the lessons learned from the project that constitute the basis for the development of the Action Plan), actions (list and description of the actions to be implemented), players involved in each action, timeframe of each action, costs of each action, funding sources.

There is probably a wide range of definitions, but we should choose one which is clear and defines useful objectives for our work in the project.

The business dictionary defines action plans as:

A sequence of steps that must be taken, or activities that must be performed well, for a strategy to succeed. An action plan has three major elements:

1. *Specific tasks: what will be done and by whom.*
2. *Time horizon: when will it be done.*
3. *Resource allocation: what specific funds are available for specific activities. Also called action program.*

A similar (but shorter) approach is given by Collins dictionary:

A statement of the steps that need to be taken to achieve a particular goal or objective.

With different terms (e.g., activities, next steps, pathways, etc.), all definitions conclude that action plans shall contain concrete measures to achieve the objectives set in the action plan.

2.2. General Action Plan (GAP) and Region Specific Action Plan (RSAP) in tasks 3.2 and 3.3

The NOVAFERT General Action Plan (GAP) has been developed for the project, and includes the key aspects and general guidelines that will be further completed by the regions (task 3.2).

For practical implementation, the NOVAFERT General Action Plan (GAP) will be adapted to the 7 NOVAFERT target regions into Region Specific Action Plans (RSAPs) (task 3.3) according to the specific characteristics and needs of each region and their associated targeted secondary raw materials:

The RSAPs will take the GAP as the common strategy and hence will establish measures (i.e., actions) needed to address each of the strategic issues set in the GAP.

2.3. Structure of the Action Plan

The Action Plan is structured in different levels:

- First level: General objective of the Action Plan.

The general objective of the Action Plan should be in line with NOVAFERT project objective as described in the DoA:

Results and activities of the action plan, defined in the subsequent levels, will contribute to the achievement of the general objective.

- Second level: priority areas to classify the actions to be further developed.

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Priority areas are the main areas/fields of the implementation strategy to achieve the general objective (first level).

The priority areas are generally defined in the GAP while the actions and practical steps to implementation (third level) will be shown in the RSAPs.

- Third level: practical steps to implementation, i.e., the concrete actions to be further developed.

This level comprises specific tasks or activities defined to achieve the general objective stated in the first level within each priority area defined in the second level, and will be developed in the RSAPs. It will include a description of the tasks, tentative timeline and actors within and outside the consortium which can move forward the consecution of the general objective within each priority area.

2.4. Participatory approach

The objective is to ensure the participation of key actors through the creation of Regional Working Groups (RGWs) (task 5.2) and the organisation of participatory workshops in each of the 7 target regions (task 5.3). These will be especially relevant for the RSAPs.

Some previous activities can be organised with the RGWs, such as on-line questionnaires, online and/or face-to-face meetings, etc.

In the workshops, it is recommended to have participatory sessions where collecting feedback from the audience is encouraged (e.g., by formulating specific questions). There are online tools to get the feedback on real time (like Mentimeter and Sli.do, among others).

A possible approach is to send out a questionnaire to key actors identified prior the organisation of the participatory workshop. The answers of this questionnaire can give a preliminary idea of relevant topics and potential activities that can be the framework for the subsequent participatory activities of the workshop. In the workshop, the organisers may have prepared specific questions for the audience in order to have a more detailed feedback based on the results of the previous questionnaire.

There are some methodologies that be used to manage participation. Here some examples:

- World Café method.
- Delphi survey.

3. The General Action Plan (GAP)

The General Action Plan is a document providing details on how the lessons learnt from the cooperation among the NOVAFERT project consortium may be exploited and horizontally applied in order to improve the use of alternative fertilisers produced from nutrients recovered from different waste streams. It specifies the general nature of the actions to be implemented in the form of general goals to be achieved, followed by more specific objectives (purposes) which are clearly defined. The purpose of the definition of the specific project objectives is their pursual in the project duration. Next, the specific objectives include a sub-set of several result points, which are the envisioned target outcomes of the actions carried out by the project

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partners. The specific objectives and their subset of result points are pursued in the context of *Task 3.3, Development of 7 region specific Action Plans for fast uptake of alternative fertilising products*. Specific indicators are laid out to monitor the successful implementation of the result points of this General Action Plan, as a part of *Task 3.4, Indicators for successful implementation and monitoring framework of NOVAFERT plans*.

In summary, the General Action Plan is a structured set of goals, specific objectives and results outlining the pathway to successfully implementing strategies and actions toward the achievement of the ultimate target, which is to increase the use of alternative fertilisers, resulting in a more resilient agricultural sector to cope with water scarcity and climate change effects.

Based on the findings of the SWOT and PEST analyses laid out in *Task 3.1, SWOT and PEST analyses uptake of alternative fertilising products*, this task aims to define a General Action Plan according to the input provided by interested parties, in order to overcome barriers and to pave the way for the market uptake of alternative fertilising products. This General Action Plan acts as a base of collection of the key aspects and general guidelines that will be further completed by the examined European regions in the framework of the NOVAFERT project, such as *Task 3.3, Development of 7 region specific Action Plans for fast uptake of alternative fertilising products*.

In more detail, the General Action Plan aims to address the following aspects:

1. General information: partners involved, countries/regions involved.
2. Action plan context: who/what does the action plan aim to impact, name of instruments to be addressed.
3. Details of the objectives and results envisaged.

3.1. What is the structure of the General Action Plan?

There are different levels to the General Action Plan so that each level is oriented to the completion of what is stated in the next higher level. This structure leads to a highly organised and prioritised general plan of action designed to achieve the stated mission and goals. The main levels of the General Action Plan are the ***General Goal***, the ***Specific Objectives*** and the ***Results*** outlined under each Specific Objective.

3.2. Methodological framework

The methodological approach used for the realisation of this deliverable uses a Logical Framework Approach (LFA), which is an analytical process that provides a set of tools for the support of goals and objective-oriented planning and management (European Integration Office, 2011). Moreover, it provides a set of interlocking concepts which are used as part of an iterative process, with the purpose of facilitating structured and systematic analysis of the General Action Plan General Goal.

The LFA is considered as an "aid to thinking", as it allows the reader to get useful information in an organised and structured manner, allows for important questions to be asked, to identify

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weaknesses and helps decision makers to make informed decisions based on in-depth project rationale, its objectives and the means by which those objectives can be met.

The first stage of the LFA is the ***analysis stage***. This stage is an iterative (repetition-based) learning process. This stage aims to:

- Gather all available information which is relevant to the General Action Plan.
- Identify relevant stakeholders and problem areas.
- Identify key points to be used in the General Action Plan creation process.
- Identify potential solutions/strategies which may be used to solve the problems identified.

In more detail, the steps of the analysis stage are:

- ***Stakeholder analysis***.
- ***Problem analysis***: identification of constraints and opportunities and of potential cause-effect relationships.
- ***Objective analysis***: provision of potential solutions to the identified issues.
- ***Strategy analysis***: identification of potential strategies to achieve solutions to the provided problems and identification of the most appropriate solution strategy.

The second stage of the LFA process, namely the ***planning stage***, will be used to create the Region Specific Action Plans, which will include specific actions and tasks to be carried out in each region in order to achieve the General Goal of the Action Plans, i.e., the uptake of alternative fertilising products.

4. General Goal of NOVAFERT General Action Plan

The general goal of the NOVAFERT General Action Plan is to demonstrate the technical, economic and environmental feasibility and safe use of a wide portfolio of alternative fertilising products containing recovered nutrients from different waste streams.

5. Stakeholder analysis

5.1. Involved European regions

The General Action Plan of NOVAFERT aims to demonstrate the technical, economic and environmental feasibility and safe use of a wide portfolio of alternative fertilising products containing recovered nutrients from 6 different waste streams, with the goal of facilitating the replacement of synthetic and mineral fertilisers, thus reducing environmental impacts and external nutrient dependence in agriculture in representative countries from Eastern, Western, Northern, Southern and Central Europe. More concretely, NOVAFERT involves the participation and input of knowledge of 7 target regions that are used as case studies.

These regions (listed in alphabetical order) and their associated waste streams (following a colour code) are:

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- Belgium – Flanders. Targeted secondary raw material: Animal manure and digestate. Regional leader: UGent.
- Croatia – Continental Croatia. Targeted secondary raw material: Bio-waste, animal manure and digestate. Regional leader: IPS.
- Finland – South-West Finland. Targeted secondary raw material: Bio-waste, digestate and animal manure. Regional leader: LUKE.
- Ireland – Wicklow / Carlow / Wexford. Targeted secondary raw material: Bio-waste and biological by-products. Regional leader: TEAGASC.
- Poland – South-East Poland. Targeted secondary raw material: Sewage sludge, animal manure and digestate. Regional leader: MEERI.
- Spain – Andalusia. Targeted secondary raw material: Wastewater and sewage sludge. Regional leader: BIOAZUL.
- Spain – Catalonia. Targeted secondary raw material: Animal manure. Regional leader: UVIC.

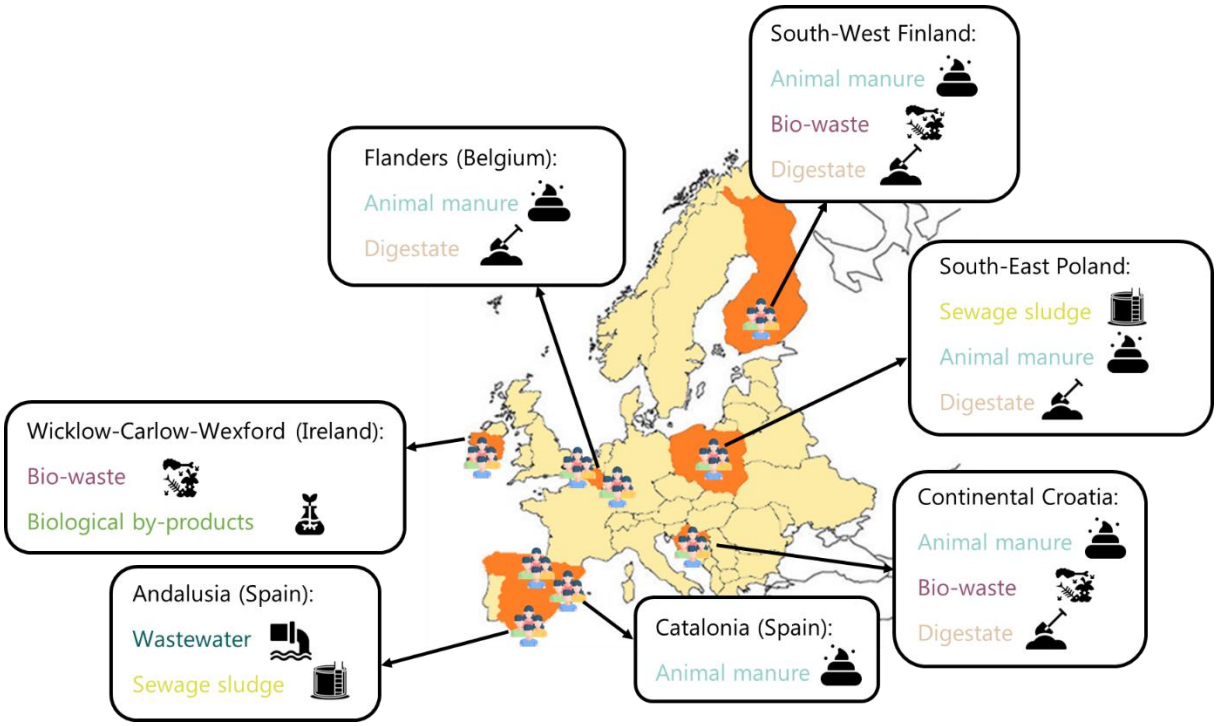

Figure 1. NOVAFERT regions and their associated waste streams

5.2. Involved stakeholders per target region

A **Stakeholder** is any individual, group of people, institution or firm that may have a significant interest in the success or failure of a project. Different groups have different concerns, capacities and interests which need to be explicitly understood and recognised during problem identification, objective setting and strategy selection (European Integration Office, 2011).

Two main questions are set during stakeholder analysis:

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- Whose problems or opportunities are we analysing?
- Who will benefit or lose from an intervention?

As a result, the key stakeholders that may provide the most important and relevant input and feedback regarding their experience on issues related to alternative fertilisers use per target region have been identified, engaged and consulted in *Task 5.1, Stakeholder engagement and consultation* and *Task 5.2, Cross-network collaboration – Establishment of Regional Working Groups*.

In order to start the work, the partners established an initial **core group** of 2-4 members with those colleagues or collaborators of the sector with which they are used to work. This core group has been the basis to further establish the RWGs.

The core group is integrated by at least 3-4 different stakeholders from the Quadruple Helix, and has been further enlarged thanks to the stakeholders identified. However, this core group remains being important, as it constitutes the first "consulting body" with regards to any activity to be further organised at regional level.

After the core group has been established, the partners have been contacting stakeholders and asking them to be part of our RWGs. This is an active task until the end of the project, with no limit to include members; the bigger the RWG is, the better, considering one of the main aims of the project is creating permanent clusters in each NOVAFERT target region to adopt and disseminate alternative fertilising solutions.

The key stakeholders include, in general, the whole spectrum of interested parties in each region, like administration organisations (at a national or regional level), municipalities / provinces, private sector companies / organisations, research centres / universities, associations and fertilising products users.

The core group working in each region is constituted as follows:

- Belgium – Flanders:
    - Sander Vandendriessche, Research centre.
    - Kris Heirbaut, Farmer.
    - Emma Van Steenweghen, Foundation.
    - Mattie De Meester, Research centre.
    - Wannes Masscheleyn, Farmer.
- Croatia – Continental Croatia:
    - Marija Mesić Tuškanec, Farmer.
    - Dario Cenger, Farmer and Business – SME.
- Finland – South-West Finland:
    - Heilä Jyrki, Farmer.
    - Fontell Hannamaija, Business - Large company.
    - Berlin Titta, National public administration.

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    - Kulmala Airi, NGO.
- Ireland – Wicklow / Carlow / Wexford:
    - Aoife Egan, Research centre.
    - Elizabeth O'Carroll, Research centre.
    - Patrick Forrestal, Research centre.
    - Mark Plunkett, Research centre.
- Poland – South-East Poland:
    - Klara Ramm. National public administration.
    - Dariusz Włóka, Business - SME.
    - Dominika Szołdrowska, Research centre.
- Spain – Andalusia:
    - José Manuel Braun Egler, Business - Large company.
    - Antolín de Benito Romero, Business - SME.
    - María Remedios Romero Aranda - Research centre.
- Spain – Catalonia:
    - Ignasi Salaet, Business - Large company.
    - Ricard Carreras, Technology centre.
    - Carlos Ortiz, Regional public administration.
    - Toni Desseuras, Business – SME.
    - Ferran Soldevila, Business – SME.
    - Sonia Bolos, Association.

The whole list of stakeholders integrating each RWG are included in *Deliverable 5.3, Report on Regional Working Groups establishment in each NOVAFERT Region*.

6. Problem analysis

Target region-specific problems regarding the use of alternative fertilisers were investigated in *Task 3.1, SWOT and PEST analyses uptake of alternative fertilising products*. In more detail, during the completion of this task, existing strengths, weaknesses, opportunities and threats for the implementation of alternative fertilising products application and use in agriculture were identified through the consultation of various key stakeholders in the 7 target regions, being each of them focused on different waste streams from which that are the basis for the development of those fertilising products (6 waste streams in total).

For the creation of the General Action Plan, the weaknesses and threats to the use of alternative fertilisers from task 3.1. are explored, as a basis for the creation of solutions and strategies for a successful implementation.

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To this end, the most prevalent issues arising from the SWOT and PEST analyses have been collected and categorised into different general "Problem areas", which include a list of the specific issues that have been listed by the target regions most frequently, thus being of higher overall importance compared to those that were less often encountered.

6.1. Problem area 1: need to adapt, extend or modify existing legal framework or to develop additional national / regional legislation

Priority issues:

- Existing legal restrictions in managing and using fertilisers produced from certain waste streams at EU and/or national level.
- Challenging / complex national regulations and policies, lack of knowledge and uncertainty on the registration, certification and labelling regulatory framework.
- Uncertain legislative future; there may be more stringent quality requirements. In addition, the law on the control of micropollutants is tightened.
- Non-compatibility of certification schemes across the EU.

6.2. Problem area 2: administrative requirements

Priority issues:

- Slowness in licensing by the public administration in some regions.
- Need of strict compliance with regulations when subsidy schemes are used.
- Lack of governmental support for research and development on alternative fertilisers.
- Depending on the political climate and current priorities, issues related to agriculture and fertilisation might not receive sufficient attention or resources.

6.3. Problem area 3: harmonised standards

Priority issues:

- Difficulties in harmonisation / standardisation of bio-based fertilisers.
- Uncertainties in products' sustainability, quality control and consistency. Any lapses in quality control can undermine the credibility and hinder the growth of the alternative fertilisers industry.
- Lack of technical standards.
- Lack of standards and agreed methodologies for pricing bio-based fertilisers.
- Existing unclear definitions; some current regulations use too broad definitions that are not always clear and some of the most commonly used materials are not adequately considered.

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- Not harmonised nomenclature; current defining terminology considers the origin of the organic waste, but it does not recognise the level of refinement that will distinguish different recovered products with distinct grades of processing.

6.4. Problem area 4: technological development and research need

Priority issues:

- Production of alternative fertilisers with a stable / consistent composition.
- Variability obtained in the nutrients recovered depending on factors like the source, the processing methods, seasonal variations, etc.
- Machinery / equipment issues related to some products spreading uniformly in the field; specialised instruments are needed to ensure equal distribution.
- Difficulties related to proper transportation and storage and doubts regarding a potential shorter shelf-life; it is important to ensure their stability and preventing degradation during storage.
- Application volumes (in fertilisation) are higher in alternative fertilisers due to low nutrient / high moisture concentration.
- Optimisation of nutrient ratio needs high processing inputs and external nutrient sources; small-scale production of alternative fertilisers is not profitable.
- There are critical constraints limiting the scaling up of technologies that need to be addressed, mainly related to mass- and cost-effectiveness of the technologies assessed.
- Lack of conclusions of bio-based fertilisers efficiency due to agronomic tests performed under variable weather conditions/soil types, as well as lack of long-term field trials.
- Scattered information on nutrient flows from secondary sources in Europe.

6.5. Problem area 5: proper dissemination / exploitation of existing results and exchange of best practices

Priority issues:

- Farmers training needed for proper management practices and problems solving in some regions; improper application can lead to nutrient imbalances in the soil.
- Need of marketing strategies targeted directly to farmers.
- If the perceived benefits of alternative fertilising products (maintaining crop yields, improving soil health, etc.) are not well demonstrated, farmers might be reluctant to use them in fear of loss of income.
- Farmers often rely on peer networks to make decisions; if a community is mostly using chemical fertilisers, there might be pressure to conform to these practices.
- Lack of real business cases on nutrient recovery and marketability of bio-based fertilisers; new business models should be promoted, including a real cross-linking with other relevant sectors.

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- Oversupply of sustainability programs and over-inquiry for farmers, making difficult they decide to participate in the next project or activity.

6.6. Problem area 6: financial incentives to overcome economic barriers

Priority issues:

- High investment needed for the establishment of new infrastructure that farmers may not be willing to make / may not afford.
- Higher production costs of alternative fertilisers in comparison with conventional fertilisers, making them less attractive for producers and consumers.
- Additional costs linked to proper storage, transportation, and application.
- Small scale production of alternative fertilisers has higher production costs.
- Lack of subsidies schemes for the promotion of the alternative fertilising products' use.
- High competitiveness with other industries for the source material.

6.7. Problem area 7: measures to improve social acceptance of alternative fertilising products

Priority issues:

- Unclear consumer acceptance due to concerns about safety, effectiveness, odour appearance, lack of certification or quality perception in comparison to synthetic fertilisers.
- Limited public awareness and understanding of the benefits of alternative fertilisers, what could lead to resistance in adopting these products.
- Consumer preferences for well-established products to the detriment of unfamiliar alternative fertilisers.
- Need of informing the consumers on the alternative fertilisers components' origin.
- Consumer fear due to the possibility that alternative fertilisers represent a potential risk to human and animal health.
- Balancing the interest of different stakeholders, including farmers, environmental groups, consumers, and industry associations, can be challenging; different groups may have conflicting opinions.

6.8. Problem area 8: related environmental impacts

Priority issues:

- Environmental pollution because of inappropriate storage, processing and use of secondary raw materials.

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- Environmental risk due to heavy metals, antibiotics and other pharmaceuticals and microplastic residues, pathogen exposure, salt accumulation and their possible transfer into the food chain or increased antibiotic resistance in agricultural soils.
- Different nutrient release patterns compared to traditional fertilisers; it is necessary to ensure that nutrients are available to plants when needed while minimising losses to the environment.
- High energy consumption of some production technologies.

7. Analysis of the objectives

After the problem areas and specific priority issues have been identified in section 6 of this deliverable, the objectives were set.

Setting and describing the objectives aiming to solve the abovementioned problems, results to the following, according to the LFA approach:

- Description of the situation in the future once identified problems have been remedied.
- Verification of the hierarchy of the objectives.
- Illustration of the means-ends to a solution.

In other words, the "negative situation" is converted into a solution and expressed as a "positive achievement" or the set objective.

Thus, the finalisation and general agreement on the objectives and desired results among the 7 target regions of the NOVAFERT project led to the creation of a coherent and thorough analysis of strategies or alternative ways of dealing with the given issue of increasing the use of alternative fertilising products using the information generated in the SWOT and PEST analyses related to drivers.

7.1. Legal framework

- EU policies promote sustainable farming practices that prioritise soil health, reduce nutrient runoff and minimise ecosystem disruption and encourage the use of alternative fertilisers.
- Current regulations set a framework to increase the safety perception of alternative fertilising products.
- The policy framework promotes the separated collection and appropriate treatment of bio-waste.
- The existing political commitment to reduce greenhouse gas emissions and improve water quality can drive the adaption of alternative fertilisers.
- Strict regulations ensure the safety use of alternative fertilisers.

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7.2. Political willingness

- Willingness of the local and regional governments to look for solutions to substitute synthetic fertilisers and implement them.
- Opportunities for farmers to obtain subsidy schemes if using certain alternative fertilisers.

7.3. Research and technical development

- Great efforts in research concerning cost-effective implementation (technologies, distribution, etc.).
- Available advanced technology, such as precision agricultural instruments and sensor-based systems, enable the farmers to apply fertilisers more precisely and in real time based on soil and crop conditions.
- Ongoing research focuses on improving processing methods, increasing nutritional content and availability, producing new products, and investigating innovative approaches for successfully using these resources in various agricultural systems.
- Digitalisation is key for the EC, that appoints water and agriculture as the sectors on which efforts must be focused in terms of digital transformation.

7.4. New business models

- Contribution to a circular economy model by transforming waste materials into valuable sources of nutrients.
- Obtention of a wide spectrum of products, major groups of liquid and solid end and by-products according to their chemical composition, content of plant nutrients.
- Incorporation to the market of the alternative fertilisers developed, constituting a new option in the sustainable economy context.
- Feedstock availability and renewability and low or no cost of input streams.
- Cost-effective products in the case of some waste streams, reducing the need to purchase commercial fertilisers.
- Low processing costs in the case of some waste streams.
- Market demand of secondary raw materials.
- Energy co-production provides an opportunity for farmers to generate on-site energy.
- The use of alternative fertilisers increases self-sufficiency in farms, thus contributing to farm economy.
- Great niche in the organic farming sector, that presents more willingness to pay for alternative fertilising products.

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- There might be market demand from a certain sector of consumers for crops produced with sustainable and environmentally friendly practices, thus farmers using alternative fertilising products may access premium markets that value such products.
- Possibility of green jobs creation.

7.5. Financial incentives

- Financial support for the implementation of installations.

7.6. Self-sufficiency

- Mineral fertilisers scarcity; mineral fertilisers availability is one of the most pressing issues facing agriculture in the next years, and bio-based fertilisers have the potential to replace / substitute mineral fertilisers.
- Reduction of the dependency on imports; policymakers may view the use of alternative fertilisers as a means of reducing the country's reliance on imported fertilisers, so improving national security and self-sufficiency.
- Possibility of producing fertilisers from waste at their place of generation, what leads to the resource self-sufficiency.

7.7. Public acceptance

- Gradual increase of demand for alternative fertilising products, what constitutes a change of consumers preferences.
- Increase of ecological awareness in relation to alternative fertilising products among society.
- Public perception of agricultural practices is influenced by media coverage and social media discussions, so positive stories and information about the benefits of alternative fertilisers can generate interest and support.
- Society is increasingly paying attention to the ecological aspects of fertilisers; alternative fertilisers are part of the idea of ecological products.
- Alternative fertilisers production contributes to the reduction of the carbon footprint in comparison with synthetic fertilisers, as they can be applied onsite.

7.8. Environmental protection

- Improving of soil health while increasing crop yields; increased organic matter enhances soil quality, fertility, microbial population amount and diversity, water-holding capacity, and overall soil health, leading to improved long-term crop productivity.
- Promotion of a more sustainable agricultural system.
- Contribution to the climate change mitigation and increase of soil resilience against extreme weather events.

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- Reduction of waste disposal problems, helping also to alleviate the burden on waste management infrastructure.
- Reduction of the pressure on critical raw materials, such as phosphorous, etc.
- Support to integrated farming, what can lead to the optimisation of the energy resources.
- Minimisation of the ecological footprint associated with chemical fertilisers production.
- Sustainable solution for managing organic waste materials, supporting agro- and food processing resources recovery.
- Decrease of the amount of elements (nitrates, phosphates, etc.) that leach into water bodies.

Concrete activities based on the drivers presented in section 7 to cope with the problems identified in section 6 will be proposed by each region and included in the RSAPs to be developed in *Task 3.3. Development of 7 region specific Action Plans for fast uptake of alternative fertilising products* and reported in *Deliverable 3.3, Lessons learnt from the Specific Action Plans*.

8. NOVAFERT General Action Plan summary

First level	**General objective**	Demonstrate the technical, economic and environmental feasibility and safe use of a wide portfolio of alternative fertilising products containing recovered nutrients from different waste streams. Results and activities of the Action Plan, defined in the subsequent levels, will contribute to the achievement of the general objective.
Second level	**Priority areas**	1. Need to adapt, extend or modify existing legal framework or to develop national / regional legislation. 2. Administrative requirements. 3. Harmonised standards. 4. Technological development and research need. 5. Proper dissemination / exploitation of existing results and exchange of best practices. 6. Financial incentives to overcome economic barriers. 7. Measures to improve social acceptance of alternative fertilising products. 8. Related environmental impacts.

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Third level	**Practical steps to implementation**	Concrete activities based on the drivers presented in section 7 to cope with the problems identified in section 6 will be proposed by each region and included in the RSAPs to be developed in *Task 3.3. Development of 7 region specific Action Plans for fast uptake of alternative fertilising products*.

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