

# SYSTEMIC

## *Brochure*

Recovery of nutrients and  
resources from digestate

2021

## Tips and tricks for setting up a marketing strategy for digestate derived products



Extract from D 3.4 Market study for biobased fertilising products from digestate within a European context



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# 1 Setting up a market strategy

Before entailing in nutrient recovery from digestate, one has to figure out first which recovered nutrient products would have a demand in the region. If there is no demand yet, the marketing strategy, including the communication and advertising has to be very convincing towards the target buyer group. Therefore, a good marketing strategy is the key to greater public acceptance and higher profit margins.

Since technology suppliers typically do not care for the marketing of the products produced by their systems, the recycled nutrient producer will have to market his own products. The optimal marketing strategy will depend on the buyer group that is chosen, and which assets and specifications of the product are preferred by the buyer group (Table 1-1).

*Table 1-1 Overview of target buyer groups, corresponding marketing level and preferred quantity and product composition.*

Target buyer group	Marketing level	Purchased quantity	Specific composition
Farmers and horticulturalists <sup>1</sup>	Directly at the producer wholesaler	Large	++ Products that meet specific crop demand
Mineral fertiliser producers or chemical producing industries <sup>1</sup>	Directly at the producer	Large-medium	+++ Products with high purity
Traders in recycled products <sup>1</sup>	Directly at the producer	Large-medium	- Quality less important
Retailers, wholesalers, garden centres <sup>2</sup>	Directly at the producer	Large, but also variety of packages sizes	++ high variety of different products
Serious hobby gardeners <sup>1</sup>	specialized horticultural businesses or garden centres	Small	+++ products perceived to be of premium quality (i.e. premium brands)
Price sensitive or less engaged gardeners <sup>3</sup>	grocery stores, supermarkets, do-it-yourself stores or online direct at the producer	Small	+ General purpose fertilisers or soil improvers

<sup>1</sup> Brochure User preferences

<sup>2</sup> (Dahlin, Herbes, and Nelles 2015)

<sup>3</sup> (Dahlin et al. 2016; Dahlin, Nelles, and Herbes 2017)

## 1.1 Communication, Promotion and Advertising Strategy

In general, a good promotion and advertising strategy will have a huge impact on the profit margin.

For this, one needs to maximally respond to the preferences, social environment and even emotional triggers of the chosen target buyer group. Emotions and sentiment are the biggest driver of purchases: use a personal approach like giving away free samples to the local garden club, getting testimonials from farmers or known and respected people, creating a story behind the creation or producer of the product that people can relate to, etc.

It is beneficial to emphasize in communication and advertising the **pro-environmental effects** of the recovered nutrient products. The fact that a farmer will be reusing nutrients when buying the product, will boost their environmental conscience, knowing they are not importing nutrients by means of mineral fertilisers (de Hoop et al. 2011).

Home gardeners are more emotionally triggered when it is mentioned that by using the products, they help to preserve endangered peatlands (Dewaelheyns et al. 2013; Dewaelheyns, Rogge, and Gulinck 2014).

Representatives of the NPK-industry are aware that primary elements (like P) are finite and that the demand for more sustainable fertilising products is growing due to a rising environmental awareness of the consumers.

For farmers it is important to mention that some recovered nutrient products contain **organic matter and valuable micro / trace elements**, in the absence of contaminants and pathogens and odour. Improvement of the soil structure by adding organic matter is the most important reason for farmers to use organic fertilisers (Case et al. 2017; Tur-Cardona et al. 2015).

For home gardeners, the advantage organic products offer as the ultimate slow-release fertilisers should be highlighted. Meaning that with the use of these fertilisers, it is very difficult for gardeners to over fertilize (and harm) their plants, which often happens in private gardens (Dewaelheyns et al. 2013, 2014).

Farmers and mineral fertiliser producers usually buy products in large quantities, so for this buyer groups, **packaging** is less relevant.

However, for retailers and home gardeners the package design is a vital element influencing their consumer behaviour because the product itself provides few visual cues to influence consumer purchases. A survey of consumer preferences concluded that women are the principal purchasers for fertilisers or soil improvers for the cultivation of flowers and vegetables. In this case, appealing packaging could illustrate the outcome gardeners expect after using the product: e.g. bright blooming flowers and large tasty-looking vegetables (Dahlin et al. 2017).

On the other hand, men frequently are instructed to buy the products in larger volumes that are heavy to carry (Dahlin et al. 2017). Packaging these products in bags provides producers a low-cost alternative to for example cardboard boxes and also has the advantage of allowing easy imprinting. Including handles, can make the bags more user-friendly and making them from recycled paper, adds to the packaged product's environmental appeal. Re-usable plastic buckets are another eco-and user-friendly alternative.

The **details about nutrient composition and information about product use**, need to appear on the packaging. This will help the end user to choose the right product. Many end users are unaware of the composition of soil amendments and fertilisers and this makes it difficult for them to assess the quality of a new product, making pre-sales services and advertising very important (Dahlin et al. 2015). Gardeners simply want a well-proven product that works and are not generally concerned to ask questions regarding the product's origin. Therefore, having a product package that simply states "from organic raw materials" works best (Dahlin et al. 2016, 2017). Nonetheless, some have a general resistance to biogas resulting from public discussions about the excessive cultivation of maize for fuel; second, consumers' concerns about product impurities such as inert foreign materials. Therefore, it is better not to mention that they are derived from biogas plants.

In general, it is best to not draw too much attention on the product's shortcomings compared to mineral fertilisers. If a certain product quality, form or performance cannot be obtained, it is better to highlight other aspects of your product or suggest solutions for the shortcomings in the advertising.

A **product name** is not necessary when targeting farmers and mineral fertiliser producers, yet in general it does differentiate from other products and creates a sign of recognition that



lingers. A good product name for appealing to home gardeners relates to the properties or application of the product. They ultimately link the brand name to a certain quality and reputation, which needs to be built.

The specific terms used in product name, can really affect the consumers perception. (Dahlin et al. 2015) found that consumer preferences consistently favoured “renewable resources” and just as consistently rejected “biogas residues.” Their results showed that “fermentation” is preferred over “biogas” in collocations with “residue”.

A well-designed **website** provides the consumers a good overview of the available products and information on where and how to obtain them.

## 1.2 Direct contact with end users

By getting in **direct contact with the target buyer group** and entering their social environment, one can create a buyer experience that lasts longer and builds trust. Not only with consumers but also with local authorities and agricultural consultants, as these exercise a multiplying effect. For example, hosting open days with guided tour on the production plant, live demonstrations of field trials and application of your products, giving away free samples to the local garden club, ....These efforts can result in greater public acceptance of the products and can result in articles in local newspapers and agricultural journals which function as are free advertising. This **positive press** is an important multiplier.

Awareness of the benefits of digestate products remains relatively low, so education plays an important role in long-term marketing strategies. Reaching potential customers through presentations at regional agricultural and horticultural meetings as well as conventions and trade fairs serves this function (Dahlin et al. 2015).

If a third party is needed for the sale of the products, it is best to rely on qualified, **trustworthy personnel**. This way a recovered product producer can stay in control of the information that is given to the costumers, especially to farmers. Home gardeners also prefer distribution through a reputable or known retailer.

When dealing with farmers, higher chances of selling the recovered product can be achieved when one is able to **communicate correct information** about the legal status, application limitations, trade regulations of the recovered products. For both farmers and home

gardeners, helping to **choose the right product** also builds trust in the product and the provider. This can include:

- which product best fills in the nutrient need, and if a certain amount of fertiliser can be eliminated because of this,
- finetune the specific fertilisation strategy to avoid over-fertilisation or deficiencies,
- calculate how much money can be saved by replacing mineral fertilisers and making more space for manure,
- calculate how much money can be saved in application cost (using a contractor or own equipment) and storage,
- which form of fertiliser best fits the user's soil structure.

These are complex calculation exercises for which most biogas plant owners don't have the experience nor the time. Research facilities or agricultural consultants can be approached for support.

Mineral fertiliser producers will have specific requirements for recovered nutrient products to be able to use it as a secondary raw material in their process (see Chapter **Fout! Verwijzingsbron niet gevonden.**). Convincing them of the value of the product will include technical discussions and price negotiation, which is best done by the recovered product producer themselves, without an intermediate party.

### 1.3 Extra actions that will boost the products' marketability

Most recovered nutrient products are relatively new, and many farmers are therefore unaware of their existence or have heard about them but don't see their value (yet) (Power et al. 2019). In their fertilisation methods, farmers are creatures of habit. Frequently, they will only use a new product if they can see it and witness the positive effects on their crop yield and quality. Therefore, **showing the product's performance** compared to raw manure or mineral fertilisers might be able to persuade them. Universities and research facilities can be approached to set up scientifically reviewed field trials. Also, farmers can be approached who would like to use the product and demonstrate and testify on the results. If the outcome is good, this will aid to invalidate the prejudices about the recovered nutrient product. These results can then be used as informative advertising and will help buyers evaluate products that for the most part they do not fully understand.



The **environmental benefit (Life Cycle Analysis)** can be quantitatively determined and used to emphasize the sustainability and potential in circular economy of the products. This is the main advantage that recovered product have over mineral fertilisers. The consumer's attention for these aspects is growing, even in fertiliser producing companies. Again universities, research facilities, coordination platforms and agricultural consultants can be approached for information and support.

Investigating if a cheap, effective, easy in use and low-emission **application technology** can be coupled to certain products can create an extra added value for consumers. If possible, the recovered product producer can provide the application service and equipment himself, hereby gaining extra profit and costumer reliance. If not, a good relation and agreement with a contractor can be established to do this.

Also, **other related services and products** can be provided, like storage, training on application, green electricity, process water, irrigation water, pure water or heat and CO<sub>2</sub> to greenhouse growers. Providing other things next to the product helps to build a sustainable, trustworthy relationship with clients and creates a total package experience.

Many farmers have experienced deficiencies or nutrient surplus by using manure or mineral fertiliser. Creating **products with a tailor-made composition** provides an answer to this issue and differentiate the products in the market and add to their competitiveness. By blending different recovered nutrient products, the required nutrient concentrations and ratios could be achieved. This way, different specialized fertilisers are created, which are appealing form farmers but especially for gardeners and retailers (Table 1-1).

When attempting to sell the recovered nutrient products to a mineral fertiliser producer, it would be beneficial for both parties if a collaboration is designed that **integrates the logistics of products** from and to the location of the mineral fertiliser producer. Find a way to streamline storage and supply of chemicals to the biogas plant and recovered nutrient products to the fertiliser producer in a cost-efficient way. Also, if large volumes of the product are required, this can be achieved by establishing joint ventures with other biogas plants. This is a complex cost-benefit analysis for which most biogas plant owners don't have the experience nor the time and therefore will need to approach universities, research facilities, coordination platforms, agricultural consultants.



**Niche markets** (see Fact Sheets Market opportunities for advanced bio-refinery products from digestate) mostly require products with very specific characterization and are frequently still in development. Entering these markets usually takes a lot of research, testing, finetuning of product, logistics, negotiating, etc. but can eventually render much higher profit margins and encounters less competition. This is a time-, money- and energy consuming process for which most biogas plants don't have the resources nor are experienced for. Entering these niche markets will need the support of universities, research facilities, consultants, private corporations, funding etc.

An alternative, to alleviate biogas plants from the money- and energy consuming marketing process, is to create an independent (non-profit) organisation, company, project or joint venture on national level or EU level that:

- Includes or has good relationship with people from the complete chain of stakeholders:
  - feedstock suppliers (animal farmers, food industry, etc.),
  - provinces (for permits and allocation of plants),
  - governmental institutes, agricultural consultants, agricultural organizations, universities, labs (for independent, reliable information on performance, safety, composition and legislation of the products)
  - retailers, mineral fertiliser producers, industry,
  - biogas plants producing recovered nutrient products.
- Helps to choose the right recovered nutrient product for the demand of each end user.
- Does public relations for the different products of the biogas plants.
- Gets technology providers to develop user friendly (and preferable cheap) equipment for farmers to apply these new fertilisers.
- Buys, rents and leases user friendly application equipment best fitted for each recovered product.
- Motivates technology companies to engage in product sales and marketing – the Ostara business model is a good example, but it needs quite a high initial investment which seems to be difficult to cover.

- Functions as independent trading platform for feedstocks and contractor services.
- Negotiates with mineral fertiliser companies, industries and retailers.
- Establishes sustainable logistic chains to end users.
- Makes an evaluation of the regional NRR pilots with regard to the economic feasibility and environmental aspects and informs biogas plants on the developments.
- And above all, is trusted by Biogas plant owners it works for.

## Conclusions

Geography appears to be a key driver of pricing for recovered nutrient products since transportation costs, especially those associated with liquid products, increase substantially as distance increases. Therefore, **sound logistics planning and management** are vital for the profitability of NRR.

Also, one needs to be aware that creating one very marketable product, could produce a few other less marketable (by-)products, that could shift the business case to negative.

Therefore, **all products need to be taken into consideration** when developing a market strategy and a sustainable, profitable balance needs to be created, selling or disposing all the produced products.

When eventually a biogas plant achieves to create a positive market value for all the produced end products, this will not automatically make a positive business case.

The **total picture** of getting feedstock, implantation and running of the digestate treatment technologies, the disposal of all side streams or by-products, in combination with the production of biogas, needs to be in balance to get to a profitable business case.

Nonetheless, the disposal or marketing of digestate products is a Key Performance Indicator in the business case of a biogas plant (see SYSTEMIC D.2.4 Final report on the development and application of economic key performance indicators (KPIs)).

In general, **biogas plants currently tend to underestimate the impact of a good marketing strategy** and should make greater efforts to better understand and respond to consumer preferences and concerns and develop effective and long-term marketing strategies for recovered nutrient products.

Direct contact with the end user and making your product relatable are key when influencing consumer perception and willingness to buy the product.

Yet, many of the suggested actions in the market strategies (Chapter 1) will often exceed the staff capacity, experience, available time and budget of biogas plants, which are mostly SME's already preoccupied with their core business: producing biogas.

However, if the recovered products qualify as a good alternative fertiliser or secondary raw material, mineral fertiliser producers are sure that they could create a market for this in a short time notice. In this case the biogas plant will not need to invest in advertising, promotion and communication themselves.

The lack of marketing power of (smaller) biogas plants could be eliminated by establishing a regional cooperation of biogas plants, contractors and/or agricultural advisors. This could lead to shared marketing costs, shared investment capital, and reduced risk. Larger cooperatives would also enjoy an improved negotiating position with larger purchasers (Dahlin et al. 2015).

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