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The Future of Food: Responsible waste management

Grants and incentives to support research and development in responsible waste management

A grants & incentives guide

Food waste plays a role in the everyday life of both people and companies. More than one-third of the global food production, amounting to 1.3 billion tons of food, is lost or wasted annually. If no urgent action is taken, global waste will grow by 70 percent by 2050. This food waste is significantly increasing costs for consumers and puts an excessive burden on our planet. Hence, minimizing food waste provides enormous opportunities for all stakeholders in the food system to provide economic gains and reduce its environmental impact. In order to accelerate the reduction of food waste, by developing and implementing prevention, reduction and re- and upcycling waste strategies, the government offers a variety of grants and (tax) incentives. In this article, we will highlight the most relevant opportunity areas with regards to responsible waste management and the funding opportunities that you can benefit from.

Responsible waste management aims at the reduction of waste related to food production. This food waste reduction could lead to substantial environmental and economic gains. Both on a European level and on a national level, several goals have been set that aim at this reduction of waste. In the Circular Economy Action Plan, the European Union highlights the goal to reduce food waste by amongst others improving waste management, stimulating innovation in recycling and limiting landfilling. Furthermore, in the Dutch circularity program ('Nederland Circular in 2050'), the government mentions the goal to make more efficient use of resources in existing production processes. All of these goals could contribute to responsible waste management. In this respect, various opportunity areas can be identified that contribute to the goal of responsible waste management. In this article, we will highlight the most relevant grants and incentives that support your research and development in the field of responsible waste management.

The funding opportunities in responsible waste management

Both on national and European level, different types of grants and incentives exist that will aid R&D in this field by easening and fastening the R&D process. There are various funding opportunities in different areas available on where and how responsible waste management can be improved (see Figure 1). Below we will discuss the possibilities of receiving a grant or incentive for the focus areas as outlined in Figure 1.

Fig. 1. Focus areas for improving responsible waste management.

Recycling and upcycling

In some cases, waste cannot be prevented. But even then, smart initiatives can help to reduce its environmental impact. In this respect, opportunities that exist relate to the repurposing of food by-products and waste into food for humans, animal feed and feedstock for biochemical products. In this respect, an example of a project for which funding has been awarded is the extraction of proteins from bio organisms as a replacement for egg white proteins in bakery and vegetarian products. Moreover, some companies are exploring the opportunities of creating value from waste through 'upcycling', which is an interesting development in the movement towards a circular economy in which value is created from waste. Not limited to, but the following example projects are considered relevant for funding:

- **Repurposing food by-products and waste into feedstock for biochemical products**
  A project on this was funded in the cluster 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' of the Horizon Europe 2020 program (Horizon Europe is the program of the European Commission which provides funding based on different pillars, of which one are the global challenges per cluster). This project is called MODEL2BIO and funded the recycling of agri-food industry waste. The project aims at the development of a decision-support system tool that determines the agri-food industry's residual streams that can be used as feedstock for the bio-based industry as the composition, logistics and volume are analyzed. The total project budget is circa € 6 million. Moreover, the DEI+ subsidy funds amongst others projects regarding recycling in which waste is used as a resource for new products (not being human food or animal feed). The total DEI+ budget is around € 126 million.

- **Repurposing food by-products and waste into food for humans and animal feed**
  Different EU funding opportunities are available in the Horizon EU program and the project ProCEedS aims at implementing the circular economy in the food supply chain, where preventing food waste is extremely relevant. A total budget of € 432,400 has been made available in light of this project. Furthermore, EFRO OpZuid Program (a European funding program for the South of the Netherlands) supports innovative projects in the field of the transition to circular agriculture. A budget of circa € 1,5 million has been awarded by the OpZuid Program on similar projects.

Product and packaging design

A wide range of opportunities for responsible waste management exist in the field of the product and packaging design. For instance, developments can take place in the product composition (ingredients that minimize processing waste and/or that preserve the end product longer after the processing phase), the product complexity (ingredients that minimize handling and processing steps can be used), the food packaging and coatings (the use of smart/connected packaging or spoilage-slowing coatings) or the shrinking of packaging sizes (in order to reduce the risk of overbuying).

In this respect, the following example projects (not limited to) are considered relevant for funding:

- **Product composition**
  Project SUSFOOD2 was funded under the Horizon 2020 program and is focused at sustainability in the post-harvest food production, covering fields from natural sciences to food engineering and social sciences. Innovative solutions that this project seeks for the future food chains are amongst others the reduction of losses and waste and the increase of the production sustainability in the food chain. The total budget for this project is circa € 14,3 million.

- **Innovative food packaging and coatings**
  Project CelluWiz, which was funded under the Horizon 2020 program, aims at developing innovative processes which are able to produce an all-cellulose packaging material that offers a competitive alternative to existing multilayer plastic materials while being renewable, recyclable and compostable in the paper waste value chain. One of the objectives of this project is the development of a specific coating and grafting process for MFC layers. The overall budget for this project is approximately € 2,8 million. Furthermore, the GLOPACK project, which was funder under the Horizon 2020 program, focuses at developing the food packaging area by funding bio-circular packaging materials, packaging to improve food preservation without additives and enabled wireless food spoilage indicators in light of self-adjusting food date labels. The total available budget is circa € 6,7 million.

Digital capabilities

There are enormous opportunities in which digital capabilities are used to prevent or reduce waste. Examples are digital twin technologies (which can be used to estimate spoilage risks and recommend the optimal course of action), advanced supply chain planning systems (which can assist in preventing oversupply), connected sensors and product tags (which can trace food quality and make it visible in real time) and machine learning algorithms (which can be trained to assess food quality from sensor data). Not limited to, but the following example projects are considered as relevant for funding:

- **Databases for technologies of biowaste utilization**
  A call on this topic is available in light of the Tech4Biowaste project, which aims at the development of a database based on the latest IT technologies (including artificial intelligence), providing a comprehensive technology overview for the valorization of (food and garden) bio-waste into value-adding applications. Examples are organic soil improvers, organic chemicals and fertilizers. The total budget is circa € 1 million.

- **Recycling technologies to process plastic waste streams and manufacture composite products**
  Funding was provided in light of the REMAT project (which was part of the Horizon 2020 program) with regards to the development of a technology that produces ecological products (such as decking tiles) from mixed plastic waste that was not wanted by the plastic recycling industry. The next step of this project is aimed at developing technologies to process new types of plastic waste streams and to manufacture more complex composite products. The available budget is approximately € 3,4 million.

Supply chain design and capabilities

Waste is created in different areas throughout the supply chain, such as sourcing, production, processing, storage, transportation and retail. Several opportunities exist for responsible waste management in the field of supply chain design and capabilities. Examples of some of these opportunities are inventory management or transportation routing which can be optimized for waste prevention. For instance, the following example projects are interesting in light of the funding:

- **Integrated research networks to reduce waste in supply chains**
  The project GOLF, which was funded under the Horizon 2020 project, includes funding with the objective of amongst others identifying efficient and sustainable physical supply chain network configurations and to reduce food waste and facilitate circular economy solutions through multiple use and reuse of agri-food products. The overall budget for this project is circa € 1,3 million.
- **Solving supply chain issues in the conversion of food waste**
  Funding is available in light of the WASTE2FUNC project, which was funded under the Horizon 2020 program and aims at solving supply chain issues that exist in the conversion of food waste into bio-based molecules for home and personal care usage. In this respect, the focus is on the set-up of a new and sustainable biomass waste supply chain which can be integrated with the existing available food waste streams. The available budget is approximately € 14 million.

Who we are and how we can help

Deloitte's global Future of Food initiative is a cross-sector effort to develop a roadmap and help companies realize this aspiration, especially around the areas of waste management, personalized nutrition, responsible food production, benefits from Industry 4.0 and food ecosystem orchestration.

Do you have an idea or envisaged project for an agricultural- or food-related project and are you curious which subsidy fits best? Please let us know. We, as Deloitte's subsidy experts, are more than happy to help you in the identification of the most relevant grants and incentives and can support you all the way towards the submission of a successful application.

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