



A4S

**CFO LEADERSHIP
NETWORK**

RESPONDING TO THE
CHALLENGE OF PLASTICS

Worked Example: Stora Enso



THE PRINCE OF WALES'S
CHARITABLE FUND



storaenso





INTRODUCTION

Stora Enso is a renewable materials company, developing products and technologies based on renewable materials and creating value in the circular bioeconomy. Our heritage and expertise in forestry and trees dates back to the 1300s. We are committed to promoting a more sustainable future, where the products that are produced and consumed are based on a renewable resource: wood. We believe that anything that is made from fossil-based materials today can be made from a tree tomorrow.

WHAT

With the support of top management, we have put in place an innovation fund, with an annual €15–20 million awarded to internal projects at the start-up phase. So far, we have funded over 30 projects through this fund. Projects range from the very small to large projects with over €5 million of investment.

In March 2019, an exploratory project to produce formed fibre as a wood-based alternative to plastic packaging became one of our first industrial scale-ups. Initial funding for this project came from the innovation fund. The material was produced at our paper mill in Hylte, Sweden. Due to the decreased demand in newspapers, two of the paper machines had been shut down earlier, so the mill offered the space and infrastructure we needed.



WHY

There is a clear problem with the way our society uses plastic. Each year, at least eight million tonnes of plastics leak into the ocean, and without significant action, there may be more plastic than fish in the ocean, by weight, by 2050.¹

We see replacing plastic as a huge business opportunity. Solving the problems associated with plastic use and disposal will require innovation and collaboration throughout the whole product lifecycle. For our business this means that we work with our stakeholders to develop renewable alternatives, while managing unintended negative impacts. While this is important, innovation is as essential in the bioeconomy as renewable resources. Our innovation fund was designed to draw out ideas from our people and encourage innovation throughout our business.

A big share of our annual capex budget is spent on replacing process parts and small development projects for current products. As a result, the scope to fund innovative projects through our usual financial analysis was limited. The innovation fund was set up to provide funding for new ideas, in areas where the markets may be less clearly defined. This structure allows new ideas to compete against other new ideas, rather than established projects, for funding.

There are a number of reasons why we saw a commercial opportunity in replacing existing plastic products. Wood fibre is the material we know best. We have a long history of working with wood fibre, and we saw space in the market for a renewable, low-carbon alternative to fossil-based plastic. By developing a new, high quality packaging product, we could also grow our business and meet our internal revenue growth targets.

HOW

The innovation fund builds on the success of other similar schemes of internal funding, such as our [energy efficiency fund](#). While the aim of the energy efficiency fund is to meet a specific strategic objective – to save energy and reduce emissions – the innovation fund takes this a step further. Our people have many innovative ideas, but we needed a mechanism to ensure that the best ideas were funded. The innovation fund provides such a mechanism, enabling innovative ideas that link closely to our strategy to access funding.

We developed the criteria for the innovation fund and used internal communications channels to make sure that all business units were aware of it. Then it was up to the business units and their local teams to work together to prepare their bids. Bids must include details of the proposed project, including technical and financial data. When bids are received, finance performs standard financial analysis, provides cash flow calculations for different scenarios, and estimates the financial return on investment and the potential for growth.

¹The New Plastics Economy: Rethinking the Future of Plastics, Ellen MacArthur Foundation:
https://www.newplasticseconomy.org/assets/doc/EllenMacArthurFoundation_TheNewPlasticsEconomy_Pages.pdf



DETAILED APPROACH

CRITERIA FOR THE INNOVATION FUND

Any proposals submitted to the innovation fund must fulfil the following criteria:

- Align with our strategic objective to lead the transition towards a bioeconomy.
- Align with our core competencies as an organization.
- Have a strong business case with significant commercial opportunity.
- Have the potential to deliver significant positive impact towards a sustainable future.

We calculate the expected financial returns and growth potential of the proposed projects. At the project testing phase, we analyse the potential market and how we could sit competitively within that market. The initial phase of funding from the innovation fund can support a project from initiation to the first industrial operation. Ultimately, the project should be able to compete with well-established projects.

INTERNAL ENGAGEMENT & COLLABORATION

Once the fund was set up, it was important that we got the message out to all business units. This way we could make the most of the creativity of our people. We used internal communication channels to spread the word, highlighting key features of the fund such as the objectives, criteria and key stages of the process. We also published the projects that were approved in the first round of the evaluation process. This helped to increase engagement with the fund over time because our staff could see the types of projects that were being submitted and considered.

Business units and their local teams, including finance, work together to prepare their bids, bringing technical and financial data together to support the business case, as well as the business and operational perspectives to demonstrate the full potential of the project. Submissions must also include a description of the first steps of the project, including initial spend and a project plan. Representatives of the business unit and the local team are invited to present the proposal together to the evaluation team.

DECISION MAKING

An evaluation team, with representatives from different divisions, reviews all submissions. The evaluation team first assesses market and margin potential, and then considers alignment with our strategy and added value to our customers.

Next, the evaluation team considers whether the submission meets the criteria for the innovation fund. In some cases, the evaluation team finds the submission to belong to core business proposals, which fall outside the scope of the innovation fund. In other cases, the proposals will not be mature enough for investment. Once the evaluation team is confident in the quality and relevance of a submission, they forward it on to the investment working group.

The investment working group, chaired by our CFO and consisting of heads of business units, makes the final decision on whether funding should be allocated to the project.

THE SUCCESSFUL PROPOSAL – A PLASTIC ALTERNATIVE

The proposal to scale up the production of wood-based formed fibre as an alternative to plastic packaging was successful. It resonated with the evaluation team because of our strategic positioning as one of the biggest renewable materials companies in Europe, and it fitted well with our business model. We have a long history of working with wood as a raw material. We also have a good understanding of sustainability macro-trends and how they provide business opportunities to companies that are responsive to them.

The technology to create formed fibre already existed, but it was not being distributed at scale. The existing supply from Southeast Asia could not fulfil the demand and had a lower functional and environmental performance. We saw that there was large demand but limited supply in Europe.

One of our key strategic objectives is to play a leading role in the circular bioeconomy by creating products that contribute to a sustainable future. To demonstrate that our formed fibre compares well with alternative materials, we conducted a [lifecycle analysis](#). The study revealed that food bowls made from formed fibre have a significantly lower climate impact than those made from bagasse or recycled PET plastic. We also performed a comparative analysis of existing paper-based technology (pulp) and equivalent plastic products to show that the product was not causing a rise in greenhouse gas emissions.



CHALLENGES

There were several issues that we had to overcome while developing the formed fibre product line.

Market making

As we are the front runner in this product in Europe, we needed to create the market. We knew the demand was there but we had to build our profile and understand where the greatest potential for growth was. Finance provided the financial analysis and forecasting to support this.

Value proposition

Sustainability is our main value proposition and, though the initial costs of producing a more sustainable product would be higher, we are also preparing our business to respond readily to imminent regulatory requirements and customer expectations. The innovation fund has enabled us to get this exploratory project off the ground.

OUTCOMES

The project has led us to create a new business unit to focus on [PureFiber™](#), a new selection of formed fibre products helping customers to replace plastics. There is a growing team of finance, sales, research and development, operations and product management staff working in this business unit as the technical and commercial feasibility of this segment evolves.

With a strong business case and the extensive work done on supplier investigation, market research and prototyping with suppliers, we were able to proceed with an industrial scale-up in 2020. We will focus initially on delivering solutions for food packaging.





TOP TIPS FOR FINANCE TEAMS

GET SENIOR BUY IN

The support of top management was important when developing our approach. It gave the innovation fund credibility as an important part of achieving our strategy. This increased internal engagement and led to higher quality applications.

CREATE AN EVALUATION TEAM

Our evaluation team ensured that the project was aligned with our strategy and added value to our customers. It was helpful to have representatives from different business divisions in a single team to assess the proposals and make decisions.

MAKE USE OF INTERNAL CREATIVITY AND INNOVATION

Sustainability macrotrends present many new challenges to our business. We established the innovation fund to draw out the creativity of our people to respond to those challenges effectively and collectively.

COLLABORATE ACROSS FUNCTIONS

Make the most of the expertise in your organization. We drew on the experience of the sustainability team for the lifecycle analysis, on the marketing team to develop messaging for the new product line and our engineering teams to develop the new facility. Responding to big challenges requires the whole business to pull in the same direction.

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