



PPP Project Annual Report 2018
 The PPP-projects that have been established under the direction of the top sectors must submit an annual report on their technical and financial progress. This format is to be used for reporting the technical progress. A separate format ('PPP final report') is available for PPP-projects that have been completed in 2018.
The annual reports will be published in full on the websites of the TKIs/top sector, excluding the blocks 'Approval coordinator/consortium' and 'Planning and progress' . Please ensure that no confidential matters are left in the remaining blocks.
 The PPP Project Annual Reports must be submitted by 15 February 2019 to Hans van der Kolk

General information	
PPP number	AF-17037
Title	Koolhydraat gebaseerde schuimen als duurzame vervanger voor Expanded Polystyreen
Theme	Biobased Economy
Executive knowledge institution(s)	Wageningen Food & Biobased Research
Research project leader (name + e-mail address)	Fresia Alvarado Chacon Fresia.alvaradochacon@wur.nl
Coordinator (on behalf of private parties)	Mark Geerts geertsm@paperfoam.com
Government contact person	Jan van Esch
Total project size (k€)	375
Address project website	https://www.wur.nl/nl/Onderzoek-Resultaten/Topsectoren/show/Koolhydraat-gebaseerde-schuimen-als-duurzame-vervanger-voor-Expanded-Polystyreen.htm
Start date	1 January 2018
End date	30 June 2020

Approval coordinator/consortium	
The annual report should be discussed with the coordinator/the consortium. The TKIs appreciate being informed of possible feedback on the annual report.	
The coordinator has assessed the annual report on behalf of the consortium:	<input checked="" type="checkbox"/> approved <input type="checkbox"/> rejected
Possible feedback on the annual report:	

Short content description/aim PPS
 What is going on and how is this project involved?
 What will be delivered by the project and what is the effect of this?
 In the market of heavier electronic devices, housekeeping appliances or packaging of garden furniture, there is the need for a thick bio-based material with an acceptable price that can replace commonly used oil based plastics.
 In this project, the partners aim to develop a (process to make) thick-walled (paper recyclable) starch based packaging material suitable for heavy products. This new material will be a green alternative for current EPS packaging materials. The aim is to reduce the carbon footprint of the till now used packaging and when possible create a thick material that can be disposed and

recycled together with waste paper.

The project involves exploring different existent and new techniques to produce thick walled starch based foamed products. Products produced will be compared and the best technique will be chosen to be optimized, produced and tested on pilot scale by a customer.

The deliverable of the project is a pilot scale production of a thick walled starch based (paper recyclable) foamed product. This product will have a huge impact in the transition to the biobased economy.

Planning and progress (if there are changes to the project plan, please explain)

Is the PPP going according to plan?	The project is going according to plan. At the moment, three different routes are being explored in parallel. A decision moment is planned in the first half of 2019. Here, it will be chosen which route(s) will be pursued further.
Have there been changes in the consortium/project partners?	No
Is there a delay and/or deferred delivery date?	No
Are there any substantive bottlenecks?	At the moment no.
Are there any deviations from the projected budget?	At the moment no.

Results in 2018/ so far

Give a short description of the high-lights and (most important) project deliverable in 2018 / so far and their target group

In 2018, three different routes to produce thick walled starch based foamed materials were explored, two of them imply batch processing and the other one involves a continuous process.

Several different raw materials having as basis starch, several different processing settings and different combinations of raw materials and processing techniques were tested. By making the right choices and partially optimizing some of the processes parameters, it was possible to obtain reproducible thick starch based foams via all routes.

In 2018, the feasibility and possibilities of each different technique/raw material combination have been explored. The produced starch foamed materials are being tested for compression and structure, first results indicate promising properties. In 2019, further trials to compare the three routes will be done and results will be reported before the decision moment.

Number of delivered products in 2018 / so far (in an appendix, please provide the titles and/or description of the products or a link to the products on public websites)

Academic articles	Reports	Articles in journals	Introductions/workshops
-	-	-	-

Appendix: Names of the products or a link to the products on a public website

<https://www.wur.nl/nl/Onderzoek-Resultaten/Topsectoren/show/Koolhydraat-gebaseerde-schuimen-als-duurzame-vervanger-voor-Expanded-Polystyreen.htm>

