SmartPilots
Interreg Europe

European Union
European Regional
Development Fund


# The SMARTPILOTS project:

**Improving policies in support of shared pilot facilities to increase their impact on the Key Enabling Technology Industrial Biotech and the European Bioeconomy**

# ACTION PLAN for the REGION of Zuid-Holland

**To be implemented and monitored from April 2018 – March 2020**

**The Region of Zuid-Holland is represented in this project by the Province of Zuid-Holland (Partner 1) and the Bioprocess Pilot Facility (Partner 2)**

provincie ZUID HOLLAND

BIOPROCESS
PILOT FACILITY

# Table of Contents

# 1. Introduction

## 1.1 The SmartPilots projects

SmartPilots is an Interreg Europe funded project that brings together the open access pilot facilities (Shared Pilot Facilities, SPF) for Industrial Biotechnology operating across the EU. Through the exchange of experiences and sharing of best practice, the partners aim to agree regional action plans for "Improving policies in support of shared pilot facilities to increase their impact on the key enabling technology Industrial Biotech and the European Bioeconomy". The Shared Pilot Facilities and regions involved are **Bio Base Europe Pilot Plant** (lead partner) and the **department of Economy, Science and Innovation** from Flanders (Belgium), **Centre for Process Innovation** from Tees Valley (UK), **VTT** from Helsinki Uusimaa (Finland), **Bioprocess Pilot Facility** and **Province of Zuid-Holland** (the Netherlands), **Innovhub SSI** from Lombardy (Italy) and **ARD** (France) and **CBP Fraunhofer** (Germany) as Case Studies.
Part of the project are the development and implementation of Regional Action Plans for promoting the Bioeconomy. This is the Regional Action Plan for the Dutch Province of Zuid-Holland.

## 1.2 What are shared pilot facilities and why are they important?

As Shared Pilot Facilities for the Key Enabling Technology 'Industrial Biotechnology' speed up sustainable innovation, they are a crucial element in dealing with societal challenges such as developing a sustainable, innovative and knowledge-based economy in Europe, creating jobs and meeting climate targets. Shared Pilot Facilities are open access research and demonstration facilities investing in a broad spectrum of state-of-the-art equipment and offering required expertise with the aim to help innovative companies scale-up their successful research to an actual industrial innovation (= Technology Readiness Level - TRL increase). Collaboration, in an early stage of innovation, with open access shared pilot facilities maintaining a high level of innovation capability, substantially lowers the financial risk for the innovating company and speeds up the commercialization of their new product or process. The long lead time associated with commercialization of novel industrial biotechnology processes causes many companies to fail. Shared Pilot Facilities help companies to bridge this 'valley of death' by reducing time, cost and risk substantially when scaling up innovations from lab scale to industrial scale. Furthermore, Europe recognizes too much R&D is deployed outside of Europe. Funds for support of the demonstration phase of promising innovations in the field of industrial biotechnology / bio-economy, are available, but companies find it difficult to access these funds. Shared Pilot Facilities can help companies to access these funds.

## 1.3 A Bioeconomy for Europe

On 13 February 2012, the European Commission (EC) adopted the strategy "Innovating for Sustainable Growth: A Bioeconomy for Europe". This strategy proposes a comprehensive approach to address the ecological, environmental, energy, food supply and natural resource challenges that Europe and indeed the world are facing. This strategy formulated the definition that "the bioeconomy encompasses the production of renewable biological resources and the conversion of these resources and waste streams into value-added products, such as food, feed, bio-based products and bioenergy.' Following this definition, the bioeconomy brings together various sectors of the economy that produce, process and reuse renewable biological resources (agriculture, forestry, fisheries, food, bio-based chemicals and materials and bioenergy) and is supported by three pillars.

- Investments in research, innovation and skills
- Reinforced policy interaction and stakeholder engagement
- Enhancement of markets and competitiveness.

## 1.4 A Circular Economy for Europe

The EU's Roadmap and Action Plan for a Circular Economy "Closing the Loop" was published in 2015 and identifies biomass and biobased materials as critical to the introduction of circular value chains across the EU. The review of the Bioeconomy Strategy is defined within the action plan as a milestone for identifying the progress of the sector and what intervention is required to support growth and competitiveness. This

was completed in November 2017 with the following findings and recommendations. • The 2012 EU Bioeconomy Strategy and Action Plan is delivering on key actions in the Action Plan. • The opportunities that the bioeconomy offers and the importance of Bioeconomy Strategy coordination are increasingly recognised by EU Member States and regions. • Further mobilisation of investments is still needed, which requires a stable regulatory environment. • Policy coherence needs to be better addressed, as well as the design and implementation of the Strategy and its Action Plan. • The current policy context highlights the need for a sustainable, circular bioeconomy. • Better monitoring and assessment frameworks are needed to assess progress.

## 1.5 Shared pilot facilities for the circular bioeconomy

Considerable policy activity has taken place at the European level to introduce technologies that can support a bioeconomy and the transition to circular principles for the manufacture, use, re-use, recycling and disposal of consumer goods. SPF are ideally situated to support and respond the challenges of this transition through supporting the commercialisation of the underpinning technologies and their associated value chains. They are able to provide support to industrial research, on an open access basis, taking concepts that are emerging from academic and private research and development, determining the feasibility of industrial application and then scaling the technology through piloting and demonstration actions to reach commercially relevant production volumes.

## 2. General Information

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| Project: | SmartPilots |
| Partner organisation: | Province of Zuid-Holland |
| Other partner organisations involved): | Bioprocessing Pilot Facility |
| Country: | The Netherlands |
| NUTS2 region: | Zuid-Holland |
| Contact person: | Nikos van Aelst (PZH), Wijnand van Smaalen (PZH), Geert van der Veen (Technopolis Group) |
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# 3. Policy Context in Zuid-Holland

## 3.1 The Action Plan aims to impact:

□ Investment for Growth and Jobs programme
□ European Territorial Cooperation programme
X Other regional development policy instrument
Name of the policy instrument addressed: Biobased Economy Innovation Support

## 3.2 Policy Context

Within the Province of Zuid-Holland, the Port of Rotterdam has a lot of Biobased economy related activity, including a Biodiesel refinery (Neste Oy). Companies like DSM, Corbion and Croda have large production facilities elsewhere in Zuid-Holland. The expenditure on R&D for the Biobased Economy within the Province is €52.5 million, almost 25% total of spending on R&D for the Biobased Economy in The Netherlands. This is in no small part due to the Biobased Delta, which the province has been a full partner in for the last two years. Biobased Delta is a cluster organisation within the south-west of the Netherlands and it encompasses the provinces of Zuid-Holland, Noord-Brabant and Zeeland. It is configured as a triple-helix organisation (governments, companies, RTO's). The Biobased Delta has the goal of accelerating the Bio Economy. Several important facilities within the cluster are located in Zuid-Holland: Bioprocess Pilot Facility (BPF), Biotech Campus Delft, YES!Delft and Plant One Rotterdam.

Activities in the field of bioeconomy, and more specifically around the BPF, have already been supported for quite a number of years by the province of Zuid-Holland.

Establishment costs of BPF were raised through ESIF (2007-2013 "**Kansen voor West I**"), regional and national budgets with a contribution of more than 50% (mostly in-kind: equipment, hardware) from the private sector stakeholders of the pilot plant. State-of-the art pilot scale equipment was acquired. The Province has the position that a Pilot Facility should in principle operate independent of government support, but was willing to support the facilities in the process of getting to this point (starting phase). Commercial chemical companies Corbion and DSM together with the Delft University of Technology guaranteed a baseload use of the facility. This provided the BPF with a guaranteed income. In the years after the start BPF also acquired many customers in addition.

The ESIF programme for Zuid-Holland has a value of €84.2M and is known as **'Kansen voor West II'** (Opportunities for West-Holland). It is a combined programme with the provinces of Noord-Holland, Flevoland and Utrecht. The provinces and the large cities within this programme have their own budget, there is one management authority. "Kansen voor West II" focus was on valorisation of knowledge in the areas of innovation at SMEs, low carbon economy, improving the business climate for companies and reducing the mismatch on the labour market. In Zuid-Holland the budget of Kansen for West II was almost fully allocated towards field labs and the establishment of InnovationQuarter (IQ, the Regional Development Agency). One of the activities of IQ is focused on developing the biobased economy in the region and attracting companies in this field to the region. The main focus is on organising the eco-system, supporting investment, supporting SMEs, start-ups subsidies for projects with low TRLs and support for the users of pilot facilities.

The province is taking part in interregional collaborations like the Biobased Delta, the Smart Pilot network and Vanguard to exchange experiences and create synergies.

Within the Smart Pilots network the Province of Zuid-Holland and the BPF cooperated with other regional authorities and pilot plants in Europe on maximising the impact of the pilot plants on the bioeconomy. The main lessons from this project are that smart pilots do help in bringing the bioeconomy closer to the market, help create test markets for biobased products and may promote investments in new industrial facilities

producing for the bioeconomy. Visits to ARD (Reims, France) and BioBase Europe (Gent, Flanders) were considered as good examples where a whole eco-system was created around the pilot facilities. The main lesson was that this eco-system had an added benefit to the commercialization of novel concepts, which could not have happened in a simple business-to-business relation between the pilot and a company with a need for scaling up. Smart pilots in themselves are however generally not fully self-supportive and need some kind of public support for renewing investments and attracting external customers, esp. SMEs. Some regions such as Flanders had good experiences with a voucher scheme to attract companies to the pilot plants.

The Biobased Economy is recognised within the Province as an interesting topic but is not yet an explicit spearhead within policy. At the moment a policy aimed at stimulating the transition to a circular economy is in the making at the province of Zuid-Holland (to be finalised after the elections in March 2019), including activities to stimulate, facilitate and connect companies, RTO's, start-ups and other stakeholders to speed up the development of the Circular Economy, and as an important part of that the Biobased Economy.

At the national level, there are limited funds for stimulation of the bio economy. Therefore there is a role for the region to strengthen this area. This Action Plan, based on the good practices of the Smart Pilots Projects, is meant to pave the way for a number of instruments in the area of Biobased Economy.

Since the budget of "Kansen voor West II" is (almost) exhausted the Province will make budget available from own funds for Biobased Economy Innovation Support. At the moment a regional programme is under development for promoting the circular economy. This programme should start in 2019.

# 4. Conclusions and Policy Recommendations from the SmartPilots project resulting from the interregional learnings.

## 4.1 Why are Shared Pilot Facilities (SPF) important?

As Shared Pilot Facilities for the Key Enabling Technology 'Industrial Biotechnology' speed up sustainable innovation, they are a crucial element in dealing with societal challenges such as developing a sustainable, innovative and knowledge-based economy in Europe, creating jobs and meeting climate targets. Shared Pilot Facilities are open access research and demonstration facilities investing in a broad spectrum of state-of-the-art equipment and offering required expertise with the aim to help innovative companies scale-up their successful research to an actual industrial innovation (= Technology Readiness Level - TRL increase). Collaboration, in an early stage of innovation, with open access shared pilot facilities maintaining a high level of innovation capability, substantially lowers the financial risk for the innovating company and speeds up the commercialization of their new product or process. The long lead time associated with commercialization of novel industrial biotechnology processes causes many companies to fail. Shared Pilot Facilities help companies to bridge this 'valley of death' by reducing time, cost and risk substantially when scaling up innovations from lab scale to industrial scale. Furthermore, Europe recognizes too much R&D is deployed outside of Europe. Funds for support of the demonstration phase of promising innovations in the field of industrial biotechnology / bio-economy, are available, but companies find it difficult to access these funds. Shared Pilot Facilities can help companies to access these funds.

## 4.2 Why do Shared Pilot Facilities (SPF) need support?

Shared Pilot Facilities should be considered as shared investments in equipment and expertise. As SPFs get no risk premium for the continuous and large investment needed to remain state-of-the-art, a full commercial business model is not viable. Therefore, public investment in SPF is indispensable and ensures that the high cost of pilot and demonstration actions can be mitigated for e.g. SMEs through the availability of open access capabilities. Due to market failure there is underinvestment from the private side in these SPF. However, the positive externalities for the innovation system as a whole (i.e. job creation and investments in new production lines at the SPF customers premises) justify public support to shared pilot facilities.

## 4.3 What kind of support is provided for SPF in the Smart Pilot regions?

The following support has been provided to SPFs in the Smart Pilot regions:

- Support for building infrastructure and maintaining infrastructure state-of-the-art (CAPEX)
- Support for SPF with respect to operating infrastructure (OPEX)
- Support for interregional cooperation (e.g. for participation in international networks or for international cooperation projects)

With respect to OPEX support, ideally this type of support fits into a triple or quadruple helix setting that contains the following elements:

- Financial instruments that fit into a bio-economy and/or innovation policy embedded in a regional smart specialisation strategy.
- Public private partnerships that co-develop the infrastructure and capabilities from low to higher TRL (e.g. the Flemish Spearheadclusters, the UK Catapults).
- A portfolio of instruments for supporting projects. These instruments access an earmarked budget. The project instruments support projects along the TRL scale and include the higher TRL (TRL5 and up). Projects with higher TRL can be promoted e.g. by higher scores for collaborative projects between industries and academia or for research project going up to TRL 5 (cfr. H2020).
- Intermediators encouraging and monitoring the appropriate use of this portfolio of instruments: experts in bio-economy and innovation that inform and support potential applicants wrt setting up projects (e.g. innovation agents or business developers for the spearhead clusters).
- An innovation one-stop-shop service that includes access to SPF as well as access to accompanying consulting services to overcome non-technological innovation barriers. This can be achieved by

voucher support: vouchers are a fast and non-bureaucratic way of financial support. Previous experience from SPF with voucher systems showed that the best response was achieved with vouchers that were sufficiently large (from €30.000 - 100.000) but require a co-funding from the applicant.

Support that was not present in the Smart Pilot regions, but that was considered useful by the partners, was interregional support for SPF in investing in complementary equipment and Interregional support for SPF investing in education and training.

# 5 Interregional learning: Best Practices and Gaps identified

## 5.1 Interregional learning: Best Practices identified by the SmartPilots Consortium

During the project many good practices were identified for support for and operation of Smart Pilot Facilities. Since investments in the BPF have already been made and the province is of the opinion that a Pilot Facility should in principle operate independent of government support (and the BPF has been doing this quite well in the past years), the most relevant good practices for Zuid-Holland were in the field of clustering and vouchers (to increase use of the BPF by regional companies and maximise impact on regional bioeconomy.

The following examples were identified:

*Networks and Clusters*

- Catapult programme (UK), Fraunhofer Institutes (DE), National Research Institute (FI) covering the entire innovation trajectory: co-development of infrastructure and capabilities for higher TRL in parallel to development of the networks connecting industries and academia (results in encouragement of using the pilot facility with the innovators).
- Networks and clusters link potential customers to expert services a.o. Shared Pilot Facilities.
- Strong cluster activity in certain regions: Bio-Economy Cluster (DE), IAR (FR), Clib21(DE)
- In Flanders: Spearhead clusters as a fly wheel of the smart specialisation strategy (public/private partnership between authorities and industry, industry driven), intercluster calls and calls for the transition domain 'Circular Economy'.
- In Flanders: Strategic context set with IB (industrial biotechnology) roadmap by CINBIOS, Bio-Economy strategy (Ceebio – search tool, interdepartmental workgroup Bio Economy)
- Interregional collaboration of regions (eg. Vanguard Initiative (http://www.s3vanguardinitiative.eu/) and clusters (eg. Bio Innovation Growth mega Cluster, BIG-Cluster, http://www.bigc-initiative.eu/) to evidence need for future late stage funding and to avoid duplication of initiatives. BIORIZON (RTOs in NL-FL), BIG-Cluster (clusters from NRW, NL, FL), Vanguard Initiative

*Innovation Vouchers*

- Establishment of voucher programmes through INNOSUP (https://ec.europa.eu/easme/en/innosup) with coordination by EASME to provide innovation vouchers for 75% of project costs up to a maximum of €60K eg. H2020-SuperBio (http://www.h2020-superbio.eu/). Whilst limited in scope, these vouchers are valuable for accessing pilot facilities to validate high potential technologies.
- Interregional partnership within the North-West European region ran an Interreg North West Europe project entitled 'Bio Base NWE' (2013-2015, http://www.biobasenwe.org/en/home/). This project won the RegioStars Award 2017 in the category 'Smart Specialisation for SME Innovation'. The project offered technological support provided by the Shared Pilot Facility 'Bio Base Europe Pilot Plant' to SMEs through innovation vouchers up to 30.000 EURO. These vouchers were easily accessible by SMEs (low administrative burden, fast procedure) and allowed innovators to establish the data required to assess the techno economics of their innovative technology, to perform life cycle analysis and/or to produce prototypes to test and validate the innovation in the market. 27 SMEs received financial support through the project. https://www.interregeurope.eu/policylearning/good-practices/item/422/voucher-for-sme-to-access-pilot-demo-infrastructures/
- An interregional partnership currently runs the Interreg NWE project entitled 'BioBase4SME' (March 2016 – February 2019, http://www.nweurope.eu/projects/project-search/bio-innovation-support-for-entrepreneurs-throughout-nwe-regions/). Next to other services such as workshops, training or biocamps, SMEs can again get vouchers, up to 100.000 EURO to get technological and/or non-technological support from a range of service providers. The vouchers are easily accessible by SMEs (low

administrative burden, fast procedure). The support offered through the voucher system can consist of: Technical assistance such as scale-up to pilot scale; Life Cycle Assessment; Techno-economic evaluation; Market research; Feedstock analysis; Social acceptance; Business planning and business plan support ... or a combination thereof.

## 5.2 Gap Analysis for Zuid-Holland

For the province of Zuid-Holland a number of gaps were identified for the continuous operation of the BPF:

- Funding for organisation, overhead and improvement of facilities is not available.
- Government expects facilities to run on a commercial scale after the initial phase.
- No financially solid funding options/ voucher systems for BPF, both for direct and indirect support mechanisms: BPF is classified as large company because of share-holder structure (legal structure) and is funded low percentages.

As a consequence, an Action Plan was designed. In this Action Plan coordination and cooperation activities are developed to generate a better coordinated stronger cluster to increase the attraction of the region for companies with biobased activities or wanting to develop these. Furthermore, the Action Plan includes a voucher scheme, with the dual aim to support development of biobased business (by making pilot plant testing financially possible) and provide (indirect) funding to BPF to increase the period for the BPF to become self-supportive. The problem of renewing infrastructure is not addressed in the action plan because this is not (yet) urgent.

# 6 Actions identified in Zuid-Holland to respond to the gaps detected

| **Action 1** | Increasing collaboration, coordination and alignment with stakeholders |
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| **1. Background** | The Smart Pilots project learning experience shows the importance of national and international networking: in order to promote the bioeconomy and maximise economic impacts it is important that pilot plants are embedded in ecosystems of companies and public bodies. This relates to the following findings from the Smart Pilots project:<br><br>Use of clusters to evidence need for infrastructure investment.<br>• Flanders BioBased Valley (FBBV), Flanders<br>• Le Pôle IAR, France https://www.iar-pole.com/<br>• Bioeconomy Cluster Mittel-Deutschland, http://en.bioeconomy.de/<br><br>Networks and Clusters<br>• Networks and clusters link potential customers to expert services ao. Shared Pilot Facilities.<br>• Established networks and innovation centres support Shared Pilot Facilities.<br>• Strong cluster activity in certain regions: Bio-Economy Cluster (DE), IAR (FR), Clib21(DE), Biobased Delta (NL)<br>• In Flanders: Spearhead clusters as a fly wheel of the smart specialisation strategy (public/private partnership between authorities and industry, industry driven), intercluster calls and calls for the transition domain 'Circular Economy'.<br>• In Flanders: Strategic context set with IB (industrial biotechnology) roadmap by CINBIOS, Bio-Economy strategy (Ceebio – search tool, interdepartmental workgroup Bio Economy)<br><br>Situation in Zuid-Holland<br>There are several innovation ecosystems within the province, focused on energy, sustainability and circular economy. Every ecosystem contains several networks, some focused on low TRLs, while others are real business networks. These networks function well and the partners within the networks are in frequent contact. Especially for a multidimensional theme as bioeconomy communication and cooperation between the networks is of vital importance because it will benefit the promotion of the theme and may increase the use of the pilot facilities.<br><br>Within the field of Biobased Economy, Biobased Delta has a central role. It is an established cluster organisation, that is active in the three provinces Zuid-Holland, Zeeland and Noord-Brabant. The province of Zuid-Holland is financing more than 1/3d of Biobased Delta costs and has a seat on the Supervisory Board. It has been an explicit choice to organise at the regional level (so not for each province separately) to reach synergies and economies of scale. Biobased Delta has regular meetings with IQ and with Cleantech Delta (CTD), the cluster organisation in the Rotterdam Harbour region that joins the forces of Universities, knowledge institutes, cities and companies to select and initiate repeatable and scalable cleantech initiatives that often involve new combinations of know-how and |

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| | partnerships in the region Delft – Rotterdam – Drechtsteden and that at present is drafting a regional biobased roadmap.<br>The city of Rotterdam has developed an integrated roadmap for the future (Roadmap Next Economy, RNE) in which Circular economy is one of the main themes, including significant attention for biological raw materials and a large project focused on realising a biorefining factory in the Rotterdam Harbour area.<br><br>The Province of Zuid-Holland and the BPF are well positioned within several of these important innovation networks within the biobased economy, such as the Biobased Delta, the Bio Innovation Growth Cluster BIG C, CLIB21, the Smart Pilot network and the Vanguard Initiative. Also, the location of the Port of Rotterdam with the world's largest industrial cluster using biomass is of great importance to the Biobased Economy within the province. Innovation Quarter (IQ), the Economic Development Agency of the Province, is actively promoting Zuid-Holland as a hotspot for the Biobased Industry.<br><br>At the international level, the Smart pilot projects has created relations with the partners so that the use of pilot plants in Europe can be optimised. Especially with Lombardy and Flanders these relations will be continued in the future. |
| **2. Action description** | The province of Zuid-Holland is supporting these activities, and will seek the synergies between these organisations, and strengthen the efforts of Biobased Delta, IQ, CTD and RNE in this area. It will also explicitly research the possible role of BPF in these activities and promote the BPF where useful.<br><br>Based on the experiences in the Smart Pilots project as sketched the biobased activities of the province will be connected to more regional and inter-regional networks to strengthen the region as a place to develop Biobased business. The BPF will start by seeking further cooperation with the Port of Rotterdam, supported by InnovationQuarter, CTD and Biobased Delta and the Province. The port has said to be willing to exchange information concerning possible biobased projects that both parties can benefit from.<br>Systematic consultation between the various networks is the next.<br>A survey will be sent out among all the present networks to identify what regional companies (esp. SMEs) need, in order to be able to benefit better from the services of the BPF and contribute to progression of the biobased economy in Zuid-Holland.<br><br>At international level, it is researched whether a joint voucher scheme with Flanders and Lombardy offers opportunities for companies in the regions (see alsoAction 2). |
| **3. Players involved** | • Province of Zuid-Holland<br>• BPF and shareholders<br>• Innovation Quarter<br>• Port of Rotterdam<br>• Biobased Delta<br>• LTO Glaskracht<br>• Greenport West-Holland<br>• other actors involved in the different networks |
| **4. Timeframe** | Start date: May 1st, 2018<br>End data: March 1st, 2020 |
| **5. Costs** | This action package will be undertaken within the budgets that the Province currently has available for the participation within the different networks.<br>For the estimated budget, see Appendix I. |
| **6. Funding sources** | Not relevant |

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| **7. Programme management related implications** | This effort requires intensive interaction with parties involved in the different networks. Since the mapping study is needed to start the exploration phase of this action, it is imperative that the mapping study starts as soon as possible. It is expected that the exploration will take quite some time, which makes it essential not to have delays in the mapping phase. |
| **8. Expected impact and results of the policy improvement** | The province expects the impact of this action to be a more effective and efficient approach to the biobased economy. Combining the current efforts would increase the strong reputation the region has on biobased and make the province of Zuid-Holland an even greater hotspot for Biobased Industry. |
| **9. How will the implementation of this action be monitored** | The province of Zuid-Holland will monitor the financial and project progress of action 1 in terms of meetings and activities and report accordingly. |

| **Action 2** | Development and testing of a voucher scheme |
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| **1. Background** | The objective of action 2 is to develop and set up a regional voucher scheme, that will be tested in practice and evaluated on its functionality. This action was inspired by the Smart Pilots network, more specifically the voucher scheme presented as good practice above. It is also considered to extent this voucher scheme to an international voucher scheme in cooperation with the Smart Pilot regions Lombardy and Flanders.<br>The rationale behind this action is that the Province of Zuid-Holland wants to promote the bioeconomy, support entrepreneurship in the region and attract foreign direct investments to the region and support at the same time the BPF, in its process of becoming self-sufficient.<br>A voucher scheme seems to provide the opportunity combine these goals. Especially since several SME's have expressed interest in piloting at the BPF but have stated that they won't because of the high price. The province thus concludes that there is a market need for the services of BPF, but that it is a need the SME's can't act on.<br>The idea is that vouchers could be used to fund up to half of the cost of a pilot project for SME's, up to a maximum, to be determined in a later stage. |
| **2. Action description** | The Province will perform a feasibility study of a voucher system to be used in pilot plants installations in the Province where vouchers are available to SME's in the province but will also look into the possibility to make the vouchers available to all SME's in the greater region (e.g. the Biobased Delta). In this feasibility study the economic impact on the region of both scenarios (regional and national vouchers) would also be taken into account.<br>It is also considered whether there needs to be other support for SMEs to become able to use the BPF, e.g. intensified communication, support for activities to prepare a pilot project, training, specific feasibility studies, etc.<br>Depending on the results of the feasibility study the Province of Zuid-Holland will draft and develop the voucher scheme The objective of the instrument is to increase innovation and economic activities within the region. IQ is the intended agency to implement the voucher scheme.<br>Once the voucher scheme is developed this will be put into practice in real life in order to test the functionality of the instrument. The voucher scheme itself will be funded with regional sources. After the test the province will evaluate the test on functionality, results, impact, costs and benefits. They will organize an evaluation meeting and draft a report with recommendations.<br>Also a feasibility study is performed to see whether such a voucher system can be extended internationally, to be coordinated with similar schemes in other European regions, with the aim of supporting interregional cooperation and of contributing to an efficient use of pilot facilities within Europe. Here, based on the experiences from the Smartpilots project, the regions of Flanders and Lombardy are targeted. |
| **3. Players involved** | • Province of Zuid-Holland<br>• BPF<br>• Innovation Quarter |
| **4. Timeframe** | Start date: October 1st, 2018<br>End data: March 1st, 2020 |
| **5. Costs** | The province of Zuid-Holland can make approximately 1 million euro's available for the voucher program: €800.000 for national vouchers and €200.000 for international vouchers. |

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| | The idea is that vouchers can be used to cover up to half the costs of a pilot at a shared pilot facility. Since most pilot projects cost anywhere between a €100.000 and €150.000, the vouchers could be valued between 50.000 and 75.000. This means that between 13 and 20 vouchers can be handed out.<br>For the development costs of the voucher scheme, see appendix I. |
| **6. Funding sources** | The program will be financed by the province, possibly with ERDF funds still available. When these funds have run out, new funding will be made available from a new regional programme on Circular Economy that is at present under construction. |
| **7. Programme management related implications** | The guaranteed funding by shareholders of the BPF will end in 2019. Therefore, it is important that the voucher scheme can come into effect in 2020 at the latest. If a voucher scheme turns out not to be feasible, it is imperative to know this as soon as possible, so that an alternative can be found. |
| **8. Expected impact and results of the policy improvement** | • Draft of a regional or national voucher scheme and an interregional collaboration with other European regions to extend the vouchers internationally<br>• Test (pilot) of the voucher scheme in real life environment<br>• Evaluation report with recommendations<br>• Financial support for SMEs for their biobased activities<br>• Increased biobased production in Zuid-Holland<br>• Financial support for the BPF because of the increase in clientele. |
| **9. How will the implementation of this action be monitored** | The Province of Zuid-Holland will, with the help of BPF and other possible pilot plants that can be part of the scheme, monitor the financial and project progress of this action (number of vouchers issued, number of vouchers used, and impacts of pilot projects on investments of pilot plant users) will report accordingly. |

# 7 Endorsement of the action plan

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| ***The Province of Zuid-Holland herewith agrees to support and promote the implementation (and where appropriate implement) the actions detailed above. I confirm that I have the required authority of my organisation to do so and that the required authorisation process of my organisation has been duly carried out.*** | |
| ***Date:*** | ***13 November 2018*** |
| ***Name and job title:*** | ***Wijnand van Smaalen, coordinator Knowledge and Innovation, Bureau Economic Affairs, Province of Zuid-Holland*** |
| ***Signature:*** |  |
| ***Stamp of the organisation:*** | |

# Appendix I: Estimated Budget for activities (without voucher costs)

| *Actions* | Staff | Administration costs (15%) | External expertise | Total costs |
|---|---|---|---|---|
| ***Action 1: Increasing collaboration, coordination and alignment*** | | | | |
| *Study on strengthening biobased innovation networks* | | | 10,000 | €10.000 |
| ***Action 2: Development and testing of a voucher scheme*** | | | | |
| *Development of a regional/national voucher scheme* | 10,000 | 1,500 | 15,000 | 26,500 |
| *Testing of the voucher scheme* | 10,000 | 1,500 | | 11,500 |
| *Evaluation meeting and report* | 5,000 | 750 | | 5,750 |
| ***Total Costs*** | **25,000** | **3,750** | **25,000** | **53,750** |