Interreg 2 Seas Mers Zeeën

Triple-A

Awareness + Access = Adoption

European Regional Development Fund

Neighbourhood consultancy centers to stimulate the adoption of low-carbon technologies by homeowners

Dissemination guide pop-up center models

Produced for the Triple-A project: Stimulating the Adoption of low carbon technologies by homeowners through increased Awareness and easy Access

Deliverable 3.4.2

Author:

Ghent University & City of Antwerp, with contributions from all project partners

Project No. 2S02-029

With the financial support of

European Union
European Regional Development Fund

Table of contents

1. Introduction

A large part of the housing stock in Europe consists of old single family houses, which causes higher carbon emissions due to the lack of proper insulation or outdated or not adjusted heating systems. Many European local authorities signed the Covenant of Mayors and made a SEAP. In most of the SEAPS it emerges that households are responsible for a great part of the CO2-emissions. Whereas the operation of city itself is only responsible for a small part of the CO2-emissions. To reach the climate goals it is the responsibility of every local authority to sensitize, inform and engage citizens to renovate their dwelling in an energy efficient way. This doesn't mean that local authorities don't have to be a good example and role model, but the impact in CO2-reduction will be smaller. By renovating their dwelling households will have a lower carbon footprint, but also more comfortable and healthy homes.

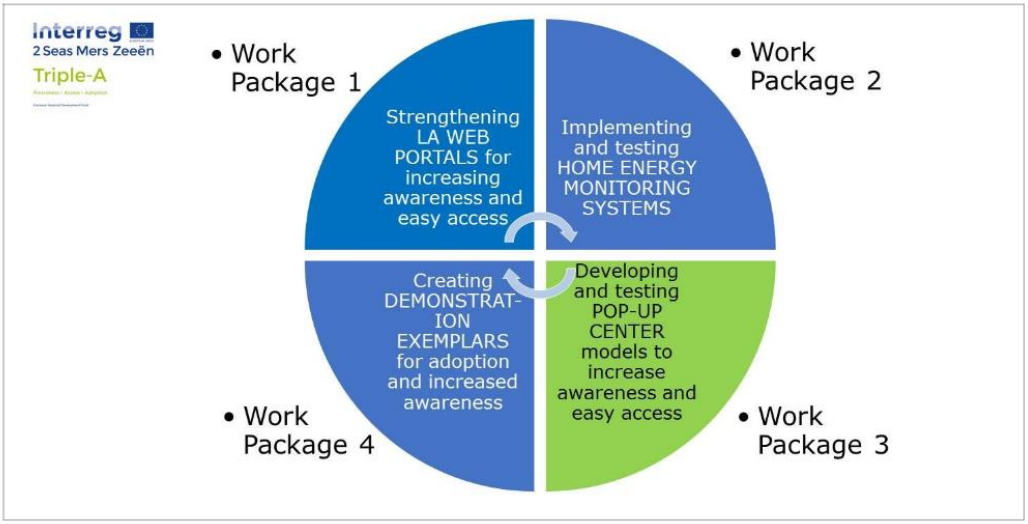
Some homeowners take actions themselves because they understand the issue and the sense of urgency. They also have the financial means and knowhow and who to contact. Other homeowners might not do anything because they are not aware of the existing technologies, financial incentives or simply don't know how to start and who to contact, and thus they need to be guided and stimulated in a proper way.

Local authorities who are part of the Triple-A project believe that homeowners can be persuaded to make their home more energy efficient by using the Triple-A method. The Triple-A partners believe that home-owners will easier adopt low-carbon technologies by creating more awareness and easy access to information.

Within Triple-A, 7 local authorities, 2 universities and 1 utility provider across the Netherlands, Belgium, France and the United Kingdom join forces by testing 4 different actions. Lead partner is the Technical University of Delft who wants to implement and investigate the Triple-A method together with Rotterdam and Breda in the Netherlands, Antwerp, Mechelen and EOS Energiehuis Oostende in Belgium, Kent County Council in the UK and SPEE Picardy in France. Together with Ghent University, Belgian utility provider Fluvius and our observer partners we focused on 4 actions, who are closely related to one another:

1. Enhancing web communication (work package 1)
2. Testing home energy monitoring or management systems (HEMS) (work package 2)
3. Setting up pop-up consultancy centers (work package 3)
4. Installing real-life demos of technologies for energy efficient retrofitting (work package 4)

The figure below shows the position of the pop-up centers within the Triple-A project.



1.1. Aim of this guide

This dissemination guide was developed with the aim of replicating three pop-up center models by other local authorities beyond the Triple-A project. This includes business cases for pop-up centers and links with the activities carried out to improve local authorities' web portals, offer home energy monitoring services and demonstrate low-carbon technologies in real life.

With this guide we want to inform local authorities and other stakeholders about the effectiveness of pop-up consultancy centers and support them in using these pop-ups as an instrument to stimulate energy-efficient home renovations by homeowners.

Pop-up centers are locations in a particular neighbourhood where homeowners can become acquainted with existing low-carbon technologies. In the pop-ups they can get neutral and independent information about low-carbon technologies, financial incentives, energy loans and different HEMS. Some local authorities also provide a renovation coaching during the renovation journey.

Within the Triple-A project, 3 different information pop-up center models were developed, tested and evaluated by 7 local authorities across Belgium, the Netherlands, France and the United Kingdom in cooperation with other stakeholders. These 3 models will be described more in detail in this document:

1. A movable, flexible, short term (<1 week) pop-up with mobile information desks or stands, mobile centers and easy to (dis)assemble constructions;
2. A longer term, fixed model making use of existing public services (libraries, cultural centers, schools, community buildings) or temporary use of vacant buildings;
3. A mixed model combining characteristics of model 1 and 2.

In this guide you will find detailed information and an evaluation of the used resources and methods. It also includes information on business cases for pop-ups, with our lessons learned and tips and tricks.

For maximal effectiveness, the pop-up consultancy centers were combined with the other actions tested in the Triple-A project, eg. pop-up centers have been used to promote HEMS, web portals have been used to show more information to visitors of the pop-up and during real-life demonstration exemplars citizens could visit the pop-up to receive more information and advice.

2. Pop-up center models

Local authority partners developed and tested three different types of information pop-up center models in the framework of the Triple-A project, in cooperation with a number of stakeholders:

1. A movable, flexible short term (<1 week) pop-up center = model 1
2. A longer term, fixed pop-up center making use of existing public service center (libraries, cultural centers, schools etc.) = model 2
3. A pop-up center that is a mixture of model 1 and 2

In a scoping report produced by TU Delft, existing consultancy centers and pop-ups were analyzed. These examples were used as a framework to assess the needs within the project.

The wide range of possible pop-ups was used by the Triple-A partners as an inspiration to develop and implement their own consultancy center(s) and pop-up(s).

The table below gives a short summary of the analyzed consultancy centers and pop-ups.

Name	Type and operation time	Initiative	Specific policy goals	Target group	Customer journey	Tools
033Energie (Amersfoort)	Website, consultancy stores & pop-ups Unlimited term	Municipal & private parties	2014-2017: 250 private homes + 500 apartments energy neutral	No specific group. Focus on Soester-kwartier (early 20th century)	Complete customer journey	Web based, energy scan, solar scan ('sunscreen') Exemplary advices (SK) Loaning scheme AHO
ICDuBo & WoonWijzerWinkel Den Haag & Rotterdam)	Website, consultancy stores & pop-ups (mobile & temporary fixed location) Unlimited term	Regional and municipal & private involvement	Bringing together demand and supply: home and apartment owners and social real estate (schools)	Homeowners in general and in specific neighbourhoods	From creating awareness up to execution of measures. Main goal is to serve as a marketplace	Exhibition of products and systems, theme meetings; infrared scans.
Reimarkt (6 municipalities)	Website, consultancy stores and pop-ups Unlimited term	Private parties with support of 6 municipalities	"To enable sustainable living for everybody'	Housing associations and homeowners	Complete customer journey	Ready to go solutions, tailor-made solutions, "step sizes related to dwelling types"
Huizenaanpak (Haarlem)	Website and consultancy centres/stores Unlimited term	Private with regional and municipal support	Private dwellings (built before 1970)	Homeowners	Complete customer journey	Quick energy scan dwelling, renovation plan, showroom of products and materials
EcoHuis (Antwerp)	Website & consultancy centre Unlimited term	Regional and municipal	Providing information, advice and support for sustainable and healthy living	Citizens of Antwerp with questions/plans to renovate their dwelling	Raising awareness, and providing information	Water and energy advice, Financial advice, demonstration of technologies Specialised advice on site (for a fee)
Kyotomobiel (3WPlus, Halle Vilvoorde)	Pop-up centre (mobile van) 2017-2020	Regional and municipal with private involvement	2016: 120 energy audits	Residents in 6 municipalities	From realising awareness up to realisation	Free advice, heat scan, energy audit (€ 40)I plus tailor made detailed roadmap
Maison de l'habitat durable (Lille)	Website and consultancy centre Unlimited term	Municipal and regional + many partners	Thermal renovation of 100.000 dwellings in the region. (Hauts de France)	Every citizen in the Métropole Européenne de Lille European	From raising awareness up to guidance to choose builders/installers	Tailor made practical and technical solutions for renovation
Energy advice pop-ups (Sussex)	Pop-ups in fixed location (e.g. café) 1 week	National and local authority	Combat fuel poverty	Residents in certain municipalities	Advice about energy saving	Home energy report

Some of these initiatives were presented during a workshop in Antwerp on 13th October 2017.

The big advantage of pop-up centers is that they can reach an audience that is difficult to reach through the usual channels (permanent office, website, etc.). Pop-ups are easily accessible because they come to the homeowners instead of the other way around. They also show the different options in a visual way and offer tailor-made advice and offers from contractors (f.e. Rotterdam and their collaboration with the WoonWijzerWinkel).

After evaluation of the different pop-up consultancy centers, the classification of pop-ups was modified and distinction between different types was made based on two main criteria: short-term/longer-term and staffed/non-staffed pop-ups. The evaluation learned that it is nearly impossible to define a mixed pop-up center and thus none of the partners developed a pop-up after the initial third model. This is reflected in the description of developed pop-up centers below.

2.1. Short-term (movable) pop-up center

The mobile pop-up centres developed in the framework of the Triple-A project were almost all considered as staffed with first-line consultants and stayed for about one week at a specific location in targeted neighbourhoods. The units varied in composition from simple information booths to representing a sustainable building by itself. All developments included mobile information desks or stands and easy to (dis)assemble constructions, so it is easy to move the unit to various target areas. The "Green Action at Home Pop Up", developed by Kent County Council, was a non-staffed pop-up that can be placed during a short period in an existing building (e.g. a library or office building). This type is in itself portable and can be placed in multiple public buildings (fixed-location) for a short-term. Visitors can pick up brochures from a pop-up banner or information stand.

Antwerp (Little greenhouse)	
	The city of Antwerp developed a flexible pop-up in the form of a greenhouse to promote these service closer to home-owners. The flexible pop-up combined with information sessions and events is used to inform home-owners about this coaching trajectory. The idea for the pop-up was a combination of a search on the internet, meeting with different colleagues and input from the company who developed the pop-up.
Breda (Greenhopper)	
	The main idea of our pop-up was to create a mobile unit, to be able to get close to people's homes. Because we have had several years of experience with information nights in central locations and those were not effective enough to reach people. We place the pop-up on a central square or close to super markets in every neighbourhood. It is designed as a tiny house, meant to look attractive and to make people curious. For that purpose it is placed 2 – 3 weeks on very location. So people can look inside if they want to. Everything intended to make them curious, so they will come back when we're open.
Kent (Green action at home)	
	This pop-up idea was developed to be portable and small enough to place inside libraries and council buildings. The aim for this was to enable greater resident interaction, with the potential to reach 39,794 over 12 weeks. This also allowed us to staff the pop up flexibly to reach the maximum number of residents while keeping costs down. The locations are the main libraries in each Kent district. The libraries with the highest footfall and borrower numbers were selected for the pop ups though the information may also be sent to the other 77 Kent libraries. *(Non-staffed)*

Mechelen (Renovatiemobiel)	
	The "Renovatiemobiel" is the mobile information counter of the city of Mechelen for home energy renovations. Citizens get information about energy-savings measures for their home and can obtain tailored advice. They get information about what the options are, which steps to take first and the expected costs and benefits. From the outside, it is conceived as a welcoming object. Solar panels and wooden cladding refer to its sustainable nature. A ramp makes it accessible for disabled people or young families with baby carriages. It tickles the curiosity of outsiders, inviting them to enter.
Picardie (Laure)	
	The pop-up centre is the "gateway" that allows access to all the information and assistance and support devices related to home renovation. The goal is to simplify the journey from individuals to the right people. First, the home-owner's request is analysed using the information given and a personalized support proposal is provided. Then, the pop-up animator directs your request and follows up with partners (ANAH, PSEE, Energy Information Desks etc.) to be sure that the request is well treated. This pop-up centre is a public service intended for all the inhabitants of the Amiens metropolitan area.
Oostende (Energiehuis)	
	The Pop-up Energiehuis is a movable container that has been fitted and equipped as a mobile office. It is fitted with several information modules and panels, that give information on solar PV, insulation, HEMS/smart thermostats, led lighting, smart meter (Fluvius). On a large tv screen, all kinds of information can be shown from a laptop. The Pop-up Energiehuis visits the different neighbourhoods in the city of Ostend and stays there for +/- 1 week. People can visit without making an appointment and get advice from an experienced staff member. Depending on the time of year, they can as well subscribe to the group purchase for solar PV and/or insulation.
Hoogstraten (Fabrik Elentrik)	

2.2. Longer-term (fixed) pop-up center

The long-term pop-up centres are located in fixed flexible locations, such as vacant shops. The pop-up is installed and furbished for a longer term, making use of or connecting to (extending) existing public services. The fixed, long-term pop-up centre examples in this project were installed for maximum 1 to 2 years in existing public service centres (libraries, cultural centres, schools, community buildings) or temporary vacant buildings. This model was developed and tested by Rotterdam, Breda and EOS Ostend. The related consultancy covered different stages of a homeowner's renovation journey, trying to establish a personal contact, coach homeowners and convince them to take action. Raising awareness and providing access to information was delivered by both dedicated staff and non-staffed installations (e.g. a brochure wall).

Breda (Groenplein)	
	The long term pop-up in the city of Breda was situated in the central library. It was connected to the online platform Groenplein, which was initiated by the city of Breda and executed bij local partners Pakhuis B and Bres. *(Non-staffed)* The pop-up displayed some general information about the opportunities for renovating homes and also about other sustainability issues such as the circular economy, food issues, etc. The pop-up was staffed for two hours per week by the energy coaches of Bres. The pop-up existed from October 2017 until March 2019.
Rotterdam (Ommoord)	
	In the Rotterdam Ommoord pop-up simple questions can be answered and some examples of sustainable solutions are on display. For more detailed advice, people are referred to the WoonWijzerWinkel (regional energy counter) which has been commissioned to manage the pop-up shop, to take care of informing and advising visitors.
Rotterdam (Duurzaamheidswinkel)	
	The Duurzaamheidswinkel is situated in a shopping mall in the IJsselmonde district on Rotterdam's south bank. This ensures a constant stream of pedestrians passing by. The shop is an anchor point from where the surrounding neighbourhoods are approached to start their customer journey in retrofitting their homes. The shop does not only provide information on energy efficiency, but also other sustainable topics. By serving different purposes, people with a diversity of interests are attracted. Once they are inside, we engage with them and try to broaden their scope. Once they decide to implement measures in their home, we are there to coach and support them.

Oostende (Loket EOS)	
	In the 'Pop-up Loket', visitors could make an appointment to check how well their roof was insulated. During a one-on-one consultancy session, an experienced staff member showed the homeowners' roof on the thermographical map of the city of Ostend. In case of poor roof insulation, people received advice on how to improve the insulation of their roof. They could as well subscribe to the group purchase for insulation, organised by EOS Oostende, or request an energy loan to finance insulation works for their roof.

2.3. Overview of all pop-up centers

Below is an overview of all pop-up consultancy centers that were developed by the project partners during the Triple-A project.

City	**Name**	**Type**	**Form**	**Staff**
Antwerp	Little greenhouse	Short-term mobile	Movable object	Staffed
Breda	Greenhopper	Short-term mobile	Movable tiny house on a trailer	Staffed
Kent County Council	Green action at home	Short-term mobile	Placed in existing building	Mostly non-staffed
Mechelen	Renovatiemobiel	Short-term mobile	Movable 'office' on a trailer	Staffed
Picardie	Laure	Short-term mobile	Automobile	Staffed
EOS Oostende	Energiehuis	Short-term mobile	Movable container	Staffed
Hoogstraten	Fabrik Elentrik	Short-term mobile	automobile	Staffed
Breda	Groenplein	Long-term fixed	Placed in the city library	Staffed/non-staffed
Rotterdam	Ommoord	Long-term fixed	Placed in existing building	
Rotterdam	Duurzaamheidswinkel	Long-term fixed	Placed in a shopping mall	Staffed
EOS Oostende	Demo space EOS & Fluvius	Long-term fixed	Placed in the waiting room of the office	Non-staffed
EOS Oostende	Semi-permanent (office EOS)	Long-term fixed	Placed in the office	Staffed

3. Resources, timeline and results

3.1. Short-term (flexible) pop-up centers

Here below you can find one example of a detailed pop-up description of a flexible pop-up centers.

For all pop-up descriptions, we refer to the project website https://www.triple-a-interreg.eu/. Under the section *Guidelines for local authorities* you can download the evaluation report. More practical information and descriptions of all developed pop-up centers can be found on the *Get started!* page.

Greenhopper Breda	
  	
Short description	Breda wants to be free of carbon emissions (CO2) by the year 2044. One essential part to be able to achieve this goal is to renovate all existing homes to be more energy efficient. For that purpose we have several projects, to engage our home-owners. The main idea of our pop-up was to create a mobile unit, to be able to get close to people's homes. Because we have had several years of experience with information nights in central locations and those were not effective enough to

<table>
<tr><td></td><td>reach people. We place the pop-up on a central square or close to super markets in every neighbourhood.

So the pop-up is meant to bring the message close to the homes. It is designed as a tiny house, meant to look attractive and to make people curious. For that purpose it is placed 2 – 3 weeks on very location. We are not open all the time, but the pop-up is not surrounded by a fence and the windows are not blocked with curtains. So people can look inside if they want to. Everything intended to make them curious, so they will come back when we’re open.

The pop-up itself is made of sustainable and natural materials. The interior was especially designed with circular and recyclable furniture and materials.

Also we have lots of different sustainable and durable techniques to show, which can also be used in real homes: infrared heat panels, LED-lighting, different displays of insulation, a demo heat pump, insulation glass, etc. So people can see and feel the materials and the techniques.

When opened, there are always two people present: one coach from the local energy cooperative and one staff member from the city of Breda. To advise people on what to do at home. As a follow-up we also have the opportunity that the energy coach makes a home visit for more specific advice.</td></tr>
<tr><td>Observed opportunities</td><td>The concept works. People are interested in the concept op a tiny house and curious how it looks.

The ‘looks’ of the Greenhopper also attracts people. The pop-up is perceived as an attractive looking unit.

In this wat the public we attract is far more diverse then we did before with our information sessions.

Furthermore the Energy coaches from Bres are more motivated since they are also present in the Greenhopper. Although it claims more of their time, they give us positive feedback about the experience: they are ‘proud’ to be part of the effort and enjoy being host in the pop-up.</td></tr>
<tr><td>Observed barriers</td><td>The logistics of moving the pop-up around in the city and finding the correct spots is more challenging than we had expected. Mainly the size and weight make it complex. We cannot reach every spot we want because of that.

Furthermore the success has a downside: we are reaching the limits of the capacity of Bres to join us every time the pop-up is opened and also the number of house visits that are plans is reaching the limits of the Energy coaches. Bres is desperately trying to recruit more coaches in 2020.</td></tr>
<tr><td>Number of visitors*</td><td>
<table>
<tr><th colspan="5">Visitors GREENHOPPER Breda</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td colspan="3">October - December 2018</td><td></td></tr>
<tr><td></td><td>Walk-in visitors</td><td>Home owners, Registered for follow-up</td><td>Hours opened</td><td></td></tr>
<tr><td>Grote Markt (10-10) (official opening)</td><td>131</td><td>2</td><td>6,5</td><td></td></tr>
<tr><td>Kasteelplein</td><td>160</td><td>9</td><td>14</td><td></td></tr>
<tr><td>Ijpelaar</td><td>127</td><td>15</td><td>19</td><td></td></tr>
<tr><td>Ulvenhout</td><td>121</td><td>37</td><td>22</td><td></td></tr>
<tr><td>Boerderij Wolfslaar</td><td>141</td><td>18</td><td>18</td><td></td></tr>
<tr><td>TOTAL</td><td>680</td><td>81</td><td>79,5</td><td>Totaal</td></tr>
</table>
<table>
<tr><td></td><td colspan="3">Januari – June 2019</td></tr>
<tr><td></td><td>Walk-in visitors</td><td>Home owners, Registered for follow-up</td><td>Hours opened</td></tr>
</table>
</td></tr>
</table>

Teteringen	83	7	20
Brabantpark	60	7	16
Hoge Vucht	103	6	18,5
Prinsenbeek	119	22	18
Koepelgevangenis	25	2	7
Belcrum	60	13	17
Centrum	92	6	17
TOTAL	**542**	**63**	**113,5**

	October – November 2019		
	Walk-in visitors	Home owners, Registered for follow-up	Hours opened
Wolfslaar	78	8	15
Bavel	57	7	16,5
Ginneken	107	34	19
Kasteelplein	113	1	15,5
Heksenwiel	90	15	16
TOTAL	**445**	**65**	**82**
Event Evoluon	100		8
Bavel – school children	27		1
Ginneken – school children	170		3

TOTAL for 2018+2019	Walk-in visitors **1667**	Home owners, Registered for follow-up **209**	Hours opened **275**

Monitoring awareness by homeowners*	We have no questionnaires from visitors. However: we have had 200 home owners who have registered during their visit to the Greenhopper a follow-up visit at home by one of the Energy coaches at. Most of these people have the intention to execute at least 1 measure. Bres always follows up the home visit by at least one telephone call after six months, in order to find out which actions have been taken by the home owners. These data for 2019 are not available yet.
Monitoring access	See also above: if people are interested, their names and address are registered and followed up by Bres. We do not provide installation of measures ourselves. However: Bres has initiated two collective solar panelling initiatives in 2019 (in Prinsenbeek and Brabantpark), following a visit from the Greenhopper. These have attracted around 75 home-owners (exact figueres not available yet). For financially vulnerable people we have another initiative, outside the Triple A project.

Experience of organisers/consultants of the pop-up*	Not data available. Supply side partners have not been interviewed on this subject.
Combined activities for an efficient use of the pop-up	In 2019 we have placed 2 advertisements in a local newspaper. In most neighborhoods we visit a Facebook push advertisement is placed. In all neighborhoods we visit door-to-door letters are distributed by Bres to home owners. An average of around 1.500 letters per neighborhood. Where possible we place the Greenhopper at events or activities of other sections of the city of Breda. For example: the Kids Climate Conference; the winter market of Boerderij Wolfslaar, etc. In November 2019 the Greenhopper was moved to Eindhoven, where the Province of Noord Brabant organized an their first Energy Festival. We attracted a lot of attention there from other local authorities.
Resources – technical	Availability of the right vehicle to move the pop-up. Availability of a spot to place the pop-up when not in use. Availability of other materials, necessary to place the pop-up in neighborhoods (i.e. traffic signs, electricity hook-up).
Resources – financial	<u>Purchase costs</u>: • Building costs: € 55.000 • Interior: € 7.500 <u>Exploitation (yearly)</u>: appr. € 30.000 • Onderhoud • Communicatie • Logistics • Overige kosten <u>Staff costs</u> • Local authority: appr. 650u (incl. coordination; communication; transport; administration) • Bres € 25.000 (energy coaches + professionals for coordination; administration; communication)
Co-creation	From the beginning we worked together with Bres. At first we put them in the lead to create the pop-up, but this was no success. Then we took the lead ourselves in finding a supplier and contracting them. Bres did do a good job in involving suppliers. They organized a meeting with a number of trusted local and regional players and we invited them to supply their products. In return we give them the opportunity to place a brochure in the pop-up (with a disclaimer from the city of Breda). Thus we were successful in interesting 8-10 suppliers to place products: infra-red panels, heat pump, green roof, water saving toilet and shower heads,

	thermostatic radiator cranes, low temperature radiator, insulation materials, insulating paint, electric car share.
Tenders	Supplier of the Greenhopper was found on the Internet First a visit was made to a demo tiny house, followed by a meeting with the builder. No tendering with other suppliers was necessary, because the city of Breda has a framework agreement with a regional supplier for all trailers. So the contract was placed via this supplier. The pop-up was especially designed in compliance with our specific needs and requests, within the size parameters for a trailer.
Worst experience	One visitor had already taken a lot of measures in their home to make it more energy efficient and almost zero carbon emission. This visitor asked for a financial dispensation for the costs they had already made. When explained that this was not possible she became very annoyed and even angry.
Best experience	The mutual effort with colleagues and suppliers to get the pop-up ready for the first opening! The first time we turned onto the motorway on our successful trip to Eindhoven.
Quote	-
Lessons learned	Though the pop-up is very successful, the size and weight constantly challenges us. So in retrospect, we would surely consider downsizing the pop-up a little bit.
Tips and tricks	Think about the right concept that fits your own organisation(s) and which is most likely to appeal to your citizens. Carefully select the locations that are best to place your pop-up. In our experience a central location very close to a shopping center or super market works best. The concept must also appeal to your own co-workers. You need enthusiastic people on board and colleagues who are prepared to take 'the extra step'!

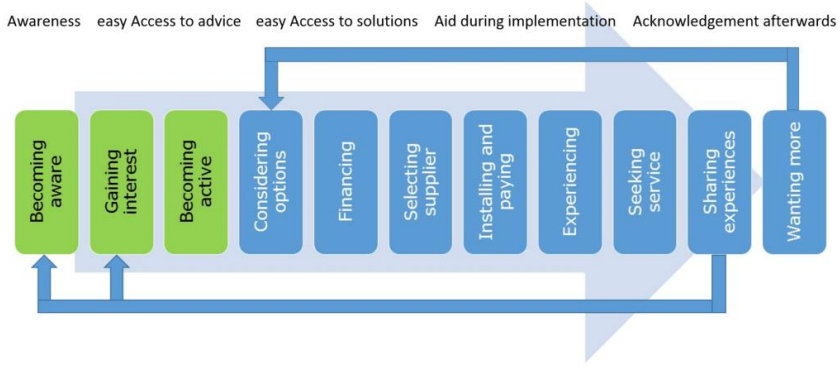
3.2. Longer-term (fixed) pop-up centers

Here below you can find one example of a pop-up description of a flexible pop-up centers.

For all pop-up descriptions, we refer to the project website https://www.triple-a-interreg.eu/. Under the section *Guidelines for local authorities* you can download the evaluation report. More practical information and descriptions of all developed pop-up centers can be found on the *Get started!* page.

<table>
<tr><th colspan="2">Duurzaamheidswinkel IJssemonde (Rotterdam)</th></tr>
<tr><td colspan="2">  </td></tr>
<tr><td>Short description</td><td>First Rotterdam experimented with a popup shop in the center of Rotterdam. The idea was that a centrally located shop would serve all Rotterdammers. However, we learned that visitors to the city center came there for different purposes, but not to learn about sustainability.

The next popup shop we opened was located in a neighborhood shopping center. We figured that it was better to be closer to peoples homes. We learned that we needed to organize events to attract people to the shop. We also learned that the few months that the shop was open for were too short to build a network in the neighborhood and obtain results. The customer journey often is much longer, and you need to be close all the time. The shop was run by the WoonWijzerWinkel; since their purpose is to help people to choose measures and materials, they were less suited to help people who were still in the start of the customer journey.

The Duurzaamheidswinkel (Sustainability Shop) is the third ‘popup shop’ that we named differently, because we acknowledged that a more permanent shop was needed. We also learned that it is important that the municipality plays a larger role in the shop, because we are better at bringing the message in the first steps in the customer journey, and we learned from research that the municipality is regarded as a independent and objective source of</td></tr>
</table>

	information, wheras the WoonWijzerWinkel works with commercial parties. The Duurzaamheidswinkel is situated in a shopping mall in IJsselmonde district on Rotterdam's south bank. This ensures a constant stream of pedestrians passing by. The shop is an anchor point from where the surrounding neighborhoods are approached to start their customer journey in retrofitting their homes. The shop does not only provide information on energy efficiency, but also other sustainable topics. By serving different purposes, we attract people with a diversity of interests. Once they are inside, we engage with them and try to broaden their scope. Once they decide to implement measures in their home, we are there to coach and support them. Although the focus in Triple-A and the City of Rotterdam is on owner-occupied, terraced houses built before 1990, the shop provided information for all of the city's residents, whether they own a house or not, whether they have money to spend or not. We know sustainability is something everybody needs to contribute to, so we want to involve everybody. The shop manager is working on creating a reciprocal network in the neighborhood. This means the shop offers opportunities for students and residents to learn both about physical interventions and social skills to build networks and work together. Thus, besides showing information panels and handing out leaflets, the shop offers a wide range of activities such as consultancy, meeting and campaigns around a particular subject, workshops, excursions, receiving other professionals, organizations, and citizens' groups from IJsselmonde and other neighborhoods to show what we do. We also participate in events elsewhere in the neighborhood. The shop aims to co-ordinate all the different channels working towards the same goal of making the city more sustainable. The shop and related activities also help to make visible, shareable and replicable all that is happening in the city. The city has high ambitions regarding waste reduction, energy saving, CO2 emissions, and climate change adaptation, and acknowledges the role that citizens play in meeting those ambitions.
Observed opportunities	- Anchor point in the neighborhood for residents with doubts and questions, both in a cognitive sense as well as socially. - Creating learning and job opportunities by working together with schools and educational centers. - Creating neighborhood networks and activating residents to be active in those networks by offering support. - Creating tool kits around small subjects to make knowledge easily transferable.
Observed barriers	- Staffing of the shop is difficult (insufficient capacity). - When setting up the shop you need to be flexible and fast, meaning you have to do a lot yourself. Involving too many people takes more time. - Internal procedures sometimes hamper quick action and getting the desired results. Management of the shop is much more encompassing than providing information to visitors; not everyone involved in the project realizes this. - Monitoring the steps people take in their customer journey is difficult, because not every visitor likes to leave their contact details, and not everybody tells what they are doing in the end. - We try to connect with all other municipal activities in the same neighborhood, but not everybody in the internal organization is open for collaboration (for different reasons).

Number of visitors*	The popup shop in the city center, open October- November 2016, 55 hrs/week, received more than 1,000 visitors. The popup shop in Ommoord, open March until June and September until December 2017, 12 hrs/wk attracted approximately 800 visitors. From November 2018 – December 2019 (35 hrs/wk, later 20 hrs/wk), the Duurzaamheidswinkel received about 1,400 people. At first sight, it seems like the Duurzaamheidswinkel does not attract as many people as the other shops. However, the Duurzaamheidswinkel IJsselmonde is situated in a more difficult neighborhood than Ommoord, because residents are less aware and informed about sustainability issues, and not as easily activated. Secondly, in the Duurzaamheidswinkel we are more intent of building good relationships with the visitors and building a community around the shop, which is important to obtain lasting results and a self-supporting community of residents. So quality is considered more important than numbers. The impact of the shops, measured as CO2-reduction, is not known for the previous shops, but we do track the known CO2-reduction attained by visitors to the shop in IJsselmonde.
Monitoring awareness by homeowners*	There are different models (customer journey, Maslow's learning phases, lifestyle segmentation) that we have learned about. When in the shop, we try to assess visitors starting an open conversation and using those models to find out as soon as possible what their stance towards sustainability is, and how we can best approach and inform them, so as to connect to their values and beliefs as well as we can. This is something hard to learn from books, but is a matter of experience and the right attitude (both design thinking, and not wanting to teach but wanting to connect).
Monitoring access	Every visitor is registered, if possible with address, but if they don't want to leave personal information, that is not a problem, they will still be counted. This system can be improved. When residents like to have an energy advise, they are referred to Klimaatroute, one of our partners. Klimaatroute monitors the addresses they visit and the energy reports they deliver. When residents reach the point that they want to implement measures, we refer them to the WoonWijzerWinkel, where they will be monitored in their CRM system. We have now reached the point that we are going to combine the different monitoring documents to get a better understanding of the customer journey and measures taken. As mentioned before, we want to serve all the residents. Therefore, sustainability is approached from multiple angles, because we believe interest and action in one field can lead to other areas of sustainability. We also offer advice to people with limited financial means. Many of the measures taken are in the category 'quick wins', e.g. installing led bulbs, draft reduction strips, etc.
Experience of organisers/consultants of the pop-up*	Employees in the shop believe they need a lot of knowledge so that they can best serve the residents. Since nobody knows everything about all sustainability topics, this is inachievable, but still it makes people insecure. Through training and experience, we have learned that we are all experts through experience, since we all live in homes as well. We can help people as well by storytelling (sharing our own experiences), listening and giving feedback, coaching. We need to not be afraid of resistance and aversion, but know how to react to it in order to have a good conversation. This means we need to get an understanding of the other person's view and values, so we can relate to that. And of course it is important to register specific

	questions, and refer people to the right person or organization that can answer their questions.
Combined activities for an efficient use of the pop-up	From the previous popup shops we have learned that a tight interaction between the shop, neighborhood campaigns, and general programs from the municipality is necessary. The agenda of activities in the Duurzaamheidswinkel IJsselmonde takes this into account. Activities include energy breakfasts, open house events, energy savings market, competitions, infrared scans of homes, and workshops. Short internships, work experience, and skills training aim to create ambassadors in the neighborhood for the shop and for sustainability messages. Communication channels for activities: newsletter, website, social media, flyers, emails, information in the shop, word of mouth. Especially if a prominent resident with a large following on social media shares information, this has a large impact.
Resources – technical	Dedicated space in a good spot; resources to support storytelling (posters, leaflets, demos); staff; external partners such as WoonWijzerWinkel, Klimaatroute, and Buurkracht; internal partners such as neighborhood programs centered around phasing out natural gas or management of public space.
Resources – financial	Yearly costs of Duurzaamheidswinkel IJsselmonde after startup: Rent and facilities € 50.000 Programming/activities € 5.000 Training € 3.000 Demo materials for the shop € 5.000 Materials for specific activities € 7.000 Communication € 5.000 Staff (incl. municipal employees) € 185.000 Total € 260.000 Costs are partly covered by the municipality (until June 2019 partly through Triple-A), and the province of South-Holland.
Co-creation	WoonWijzerWinkel, Klimaatroute, Buurkracht, locally based organizations, locally operating municipal programs, and of course residents. The Duurzaamheidswinkel provides general information and coaching. Buurkracht helps set up community networks with residents who want to work together in creating a more sustainable environment in their neighborhood. Both are active nudging residents in the first steps of the customer journey. Klimaatroute provides energy advise, thus contributing to the orientation phase. WoonWijzerWinkel helps in getting quotes, and in selecting suppliers and contractors. In the next phase of the Duurzaamheidswinkel we will work more closely with schools and local organizations such as JINC (an organization that supports children in disadvantaged environments to discover their talents and different career options, and urges companies to offer internships), Energiebank (an organization that trains volunteers to help low-income households to save money by reducing their energy costs), and Pameijer (an organization that supports people with psychosocial or psychiatric problems, or mental disabilities, and helps them find workspace learning jobs). By working together with these partners, the Duurzaamheidswinkel becomes strongly locally embedded in multiple networks. We believe that by investing in these connections we will achieve more results in the long term.

Tenders	For the Duurzaamheidswinkel, the City of Rotterdam is in the lead and in charge to manage and organise activities. Most of the staff are employees of the city. A full-time area manager for energy efficiency who is also in charge of the Duurzaamheidswinkel has been hired. For that a tender has been organised and publicised. At first, no candidate applied. According to the tender rules, the city is then allowed to choose its own candidate. That is how the energy efficiency area manager (Mrs Ariane Lelieveld) has been hired. Her assignment has been extended for one more year. Woonwijzerwinkel is a preferred partner to help residents with quotes and further support in the customer journey.
Worst experience	Seeing people leave the shop disappointed with the advice or answer they got. It proves to be complicated to align and collaborate among the shop staff, even though we are all collegues from the City of Rotterdam (albeit from different departments). Because of the City's procurement rules, quick action in hiring external people is difficult, while this is necessary for flexibility and reliability.
Best experience	The shop can take off quickly by just starting and taking small steps at a time. The shop improves constantly through a process of 'learning by doing'.
Quote	Make sure you are visible and findable. Even small campaigns can attract people to the shop, offering an opportunity to plant a seed. For example, in order to continue receiving promotional folders and free local newspapers, residents need to put a sticker on their mailbox. The Duurzaamheidswinkel is one of the places where people can get such a sticker. Even though getting this sticker is considered not sustainable behavior, when they are in the shop, we treat it as an opportunity to have a little conversation about sustainability.
Lessons learned	- You need to focus on smaller scale, not try to change the entire city at once. - Do not only focus on the typologies of the houses (technical/economic), but also on the characteristics of the residents (demographic and social), and their interrelations and interactions. - You need to know about basically all municipal programs and projects in the neighborhood, because residents will ask you about them – after all for them the 'municipality' is one entity. Co-operation with other departments and teams, however, is not always easy. - The sustainability story is not fixed, but continues to evolve, so stay up to date and adjust the shop and your message to the latest insights. - It is not a problem if you don't know the answer as long as you are honest about it. Make sure, however, that you ask a collegue or partner to get in touch with the client. - Do not start by sending your message; first listen and connect. - The goal is that everybody leaves the shop feeling good about their visit, even if their question has not yet been answered. - We are only at the beginning of taking residents along in the energy transition. 10% of residents want to change, and have the means to do so. Those are the people we reach now.

	- The most important function of the shop is to create attractive starting points for the start of residents' customer journeys in changing their lifestyle or their home. - Especially for those who want to change but encounter many obstacles, we help them tackle their problems one by one. - Budgets need to be flexible so we can improvise more. - The ideal shop manager is both socially capable in order to connect with people and to build meaningful networks, and technically competent as a developer/designer. - Create added value for the shop in different areas, so that residents will embrace the shop and will want to contribute or be an ambassador in the neighborhood.
Tips and tricks	Make sure you have clear answers to the Why? For whom? and How? questions. (Why is the shop here? For whom is the shop? How are you going to pull this off?) Challenge yourself to convey in one A4 sheet what you did and what results you obtained (for example, in an infographic). Be well prepared regarding support in your organization and in the district. The shop is developed based on design thinking: idea → try out (prototyping) → learn → adjust/new idea.

4. Business and marketing plan

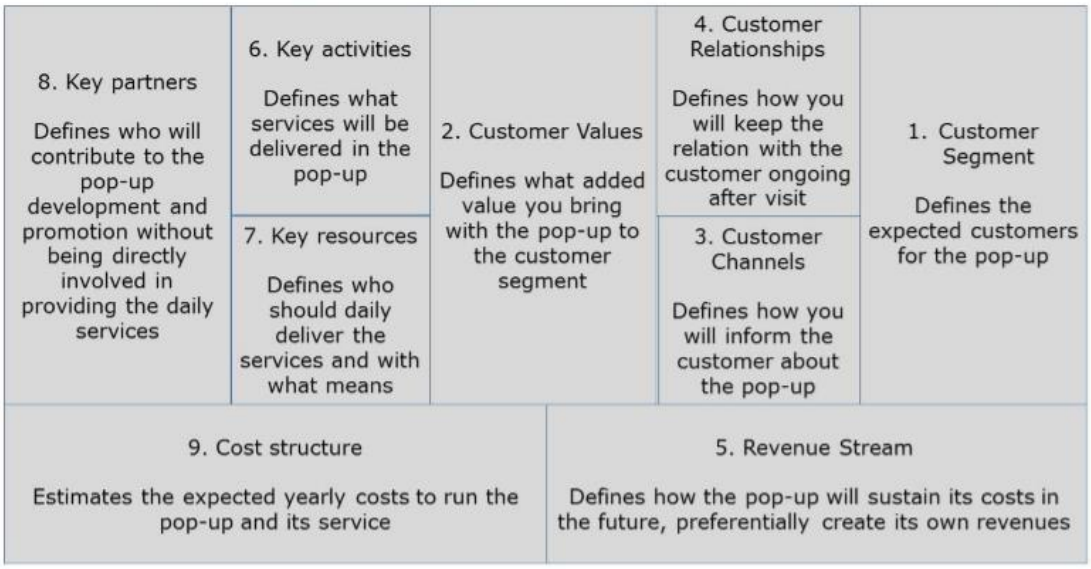
For initiating new pop-up centers we have to look at the development of business models that include the requested public-private co-creation and or co-operation. The business model development canvas (developed by Osterwalder and Pigneur - 2010) gives a practical instrument to reflect on the needed customer segments, their values, communication channels, the expected relations with customers and partners, the needed resources and revenues, and so on.

The model, composed of nine building blocks is illustrated in the figure here below for the development of pop-up consultancy centers. The model should be read from right (1. Customer Segments) to left (9. Cost Structure).

The canvas defines customer segments as different groups of people or organizations that an enterprise or company aims to reach and serve. Value propositions are the bundle of products and services that create value for a specific customer segment. Channels are the means how a company communicates with and reaches its customer segments to deliver a value proposition, and customer relationships are types of relationships a company establishes with specific customer segments.

Key activities and key resources are respectively the most important activities the company has to perform and the assets of the company (physical, financial, knowledge, human) so that the business model works. With key partners a reference is made to the needed network of suppliers and partners, that are not part of the enterprise or consortium itself.

The revenue stream is based upon fees for to be delivered products and (all kinds of) services. The cost structure can be based upon salaries, tools/equipment and material costs, marketing costs including exhibition, website, concept development, rent, financing and insurance costs, costs related to warranties and claims, and so on. Also fees to partners and rewards for customers could be part of the cost structure.



All Triple-A partners developed an implementation plan for the development of their local pop-up center, with support from the Ghent University Center of Persuasive Communication. Ghent University created templates for the implementation plan and delivered a general marketing plan.

A marketing/implementation plan describes which objectives you want to reach with which target groups in a certain period, and how you think you will reach them.

A good plan sets clear, realistic and measurable objectives, includes deadlines, provides a budget and allocates responsibilities.

Consequently a marketing/implementation plan can consist of these elements:

- Analysis of the current situation/market
- Your objectives and steps to achieve them

- Key strategies
- Realisation and evaluation
- Proposed budget

The plan is an ongoing process during the development and use of the pop-up center.

In the implementation plan all Triple-A partners described the following topics:

- Introduction
- Marketing Plan Summary (optional)
- Pop-up's Purpose
- Objectives
- Segmentation & targeting
- Strategic Approach
- Product
- Price
- Place
- Promotion
- Publics
- Partnerships
- Budget
- Managing Risks
- Evaluation

5. Conclusion and evaluation

Several KPI's were defined to monitor and evaluate the progress and success of the pop-up consultancy centres. However, some of the KPI's turned out to be very hard to monitor or less relevant and were therefore not taken into consideration in the final evaluation.

The table below shows the reached number of most important KPI's. For a more detailed description of the pop-up consultancy centers, including information on development costs and staffing, we refer to the pop-up descriptions available on the **Get started** page of the Triple-A project website: https://www.triple-a-interreg.eu/get-started.

Pop-up center	N° of staff hours invested	N° of visitors	N° of collaborating target actors
Little greenhouse	127,5	1.113	34
Greenhopper and Groenplein	495	2.104 (213 advices)	5
Warmer homes	6	201	0
Renovatiemobiel	648	1.727 (159 advices)	6
Laure	85	423 (60 advices)	>5
Duurzaamheidswinkel	2.376	5.011	19
Energiehuis EOS – waiting room and office	522,5	413	9
Fabrik Elentrik	65	349	0
Total	3.677	11.341	78

A scoping report and detailed evaluation report of the pop-up centers' development can be downloaded from the Triple-A project website as well: https://www.triple-a-interreg.eu/project-reports.