

October 2020

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The Urban Lab of Europe !

The ANTWERP CIRCULAR SOUTH project Journal N° 5

Project led by the City of Antwerp



**CIRCULAR
ECONOMY**



The ANTWERP CIRCULAR SOUTH Project

The Antwerp Circular South project aims to position circularity as a community challenge for the New South district (a newly created district in Antwerp) and to engage its new residents in co-creating online and offline initiatives to change their consumption behaviours. A number of advanced technical solutions covering different resource streams (energy, water, waste and materials) will be tested.

The project aimed at involving 200 Circular South inhabitants to experiment with the so-called 'behavioural nudging', receiving cues to adapt their consumption behaviour of energy, water, waste and materials in the most ideal circular way. Circular behaviours would be automatically rewarded by an online token, the Circular token – Circules, through a blockchain-based reward and exchange system. A part of the most engaged Circular South participants would form a local energy community co-owning of an innovative collective energy system. In addition, a Circular South Community Centre – CIRCUIT would be set up to host a number of initiatives related to sharing, repairing and reusing activities. CIRCUIT will reach out to a broader (geographically) group of citizens in opposition to the more limited group of 200 participants in the behavioural nudging experiment.

The project is composed of the following partners:

- The City of Antwerp;
- VITO/EnergyVille;
- Digipolis;
- Imec;
- Pantopicon;
- EnergieID;
- de Kringwinkel Antwerpen;
- Ecopower.

Table of Contents

- 1. EXECUTIVE SUMMARY 4**

- 2. DISTORTED TIME WITH NEW AND OLD READJUSTMENTS 5**
 - 2.1 The COVID-19 crisis as an amplifier 5
 - 2.2 New infrastructural changes 6
 - 2.3 Mixed feelings 6

- 3. LAST MILE AND WRAPPING UP 7**
 - 3.1 Technical devices 8
 - 3.2 Back-office modalities 9
 - 3.3 Interface 13
 - 3.4 Activities 14

- 4. ONGOING CHALLENGES AND ADJUSTMENTS 19**
 - 4.1 The actual, societal evaluation of the project 19
 - 4.2 Continued political dependence 20
 - 4.3 Limited integration in the overall organisational structure 20
 - 4.4 The limited staff resources 21
 - 4.5 Overview of challenges 21

- 5. WHAT ARE THE NEW LEARNINGS OF THE PROJECT? 24**
 - 5.1 Getting adjusted to the reality of online activities 24
 - 5.2 The COVID-19 crisis as both a blocker and a driver 25
 - 5.3 The experiment is a success in itself 25
 - 5.4 Change is possible, with the right support 26

- 6. WHAT'S NEXT? 27**

- 7. ACKNOWLEDGMENTS 28**

1. EXECUTIVE SUMMARY

The Antwerp Circular South project is entering its final stage in strange times. As the rest of society, it has been affected by the current Covid-19 pandemic, the uncertainties related to it and the unstable legal and sanitary measures within which we have had to evolve. This situation has also exacerbated previously identified challenges. Together with some new negative developments in terms of infrastructure, the team is finalizing this project with mixed feelings.

Yet, all the activities have continued with ongoing creativity to find new solutions. Public Procurement has been successfully launched as a Framework contract with three suppliers for PVs, BIPVs and Batteries. The installation PVs (Photovoltaics), BIPVs (Building-integrated photovoltaics) and electricity storage systems has faced delays, batteries, could not be installed and the number of purchased smart meters was reduced from 200 to 140.

The recruitment for the Community of New South was totally disrupted during lock-down and the varying covid-proof measures which were implemented in Antwerp. Yet, new activities have taken place via social media and newsletter, E-peritives and 'ruilaperitief' and many others. The concept of the Transition Board has now been finalized and is ready to join the final stages of the project.

The content of the nudges is fully operational, together with data treatment and integration, business logic for energy and waste, endpoints for ACPaaS data, virtualisation, Customer Energy Management System, and blockchain.

The application was improved. The nudging experiments have been continued, in March, April, May-June, and October. The circular tokens "Circules" are fully integrated into the nudging. CIRCUIT, whose future location (Palazzo Verde)'s building is delayed, keeps on playing a role as incubator for start-ups with chosen makers, and buddies, and organizers of local offline and online activities, including the group purchase. Its future Business Model has not been finalized yet.

The Energy cooperative, the "Renewable and Citizen Energy Community" keeps on being expanded and formalized. The third edition of the waste challenge "FC Minder Afval" took place in August instead of June. Adjustments have been made to the green waste challenge, and the plastic deposit challenge.

In light of the current situation and the finalization of the project, questions and challenges related to the actual, societal, evaluation of the project and the continued political dependence have been reinforced. At the same time, it has become clear that there is limited integration in the overall organizational structure. The final months of the grant also limit the available staff resources in the city administration team.

In parallel, the project has learnt to get adjusted to the increase of online interaction but also discovered that the Covid-19 pandemic has played the role of both a blocker and a driver and that beyond the mere achievement of KPIs, the experiment is a success in itself. Finally, the project is now demonstrating that behaviour change is possible, with the right support.

2. DISTORTED TIME WITH NEW AND OLD READJUSTMENTS

The last six months of the project are on their way. Antwerp Circular South requested an extension for its infrastructure investments whereas it is finalizing the rest of its activities. In the last couple of months, the project was

affected by the Covid-19 pandemic as well as new delays in the building of the site. These have led to mixed feelings about the project's outcomes.

2.1 The COVID-19 crisis as an amplifier

As the rest of the world, the City of Antwerp was affected by the Covid-19 pandemic and related sanitary and preventing measures. We can identify four main phases for measures based on Federal, Regional and City decisions which have affected the project:

- **12 March – mid June: lock down.** Residents were asked to stay home, work from home, leave their houses for necessary reasons only. Impossibility to meet or gather in person. Possibility of (partial) economic unemployment. Stop of many non-necessary economic activities. Strict framework. Uncertainty about the future. Waiting for slow or total return to “normal life”.
→ For the project, this meant stopping all offline activities. Online activities and tasks could be developed and/or further pursued. All partners continued working except for De Kringwinkel where employees went into economic unemployment.
- **Mid-June – 28 July: deconfinement.** Possibility of non-necessary activities while following some strict measures (physical distancing, compulsory mask). Residents given the

possibility to leave their houses. Working from home strongly recommended. Some possibilities to meet and gather in person. Slow openness towards more “normal lives”, which regular changes.

→ For the project, this meant slowly going back to the possibility to organize some offline activities (within a strict framework). All the partners went back to working.

- **28 July – 23 August: Peak of disease in Antwerp.** Stringent measures are taken. Mask is obligatory everywhere. Instalment of a curfew.

→ All activities back to online.

End August – end September: Back to “deconfinement rules”. Regular changes and updates. Uncertainty about the future which can move towards more or less “normal” activities. City administration keeps stringent sanitary procedures for its civil servants. The number of infected people is rising rapidly. Antwerp is heading for a new lock down¹.

→ For the project, this is a new period of uncertainty and lack of visibility of what will be made possible when. Most activities are still online. Limited offline activities.

¹ meanwhile deployed from 1/11/2020

The project has been affected in three major ways:

- delays in the delivery of the infrastructure, as all building works on the site were stopped; and;

- quasi impossibility to further recruit and engage, as activities have taken place mostly online in this last period; and,
- many residents have other needs in these pandemic times.

2.2 New infrastructural changes

The biggest piece of (bad) news in terms of infrastructure, is the closure of the site of Plein Publiek in January 2021. Whereas this site had been the blessed solution to the delays in the construction of the future site of CIRCUIT - providing a suitable place for the emergence of a circular ecosystem in New South – and test bed for the first PVs, we seem to be back to the situation of 2 years ago.

As Palazzo Verde, the final location of CIRCUIT will be finalized in May only, De Kringwinkel together with the City of Antwerp have teamed up to look for alternatives, and had already identified two: yet, one of them was a too large space, the other one - a space too rough to enable immediate use (without substantial works). At the same time, De Kringwinkel is conscious that it is not worth making new investments in such



State of Play of Palazzo Verde, 2 October 2020
(Source: Marcelline Bonneau)

a short period of time - even if it will also be too long not to be active.

The containers might be moved further south in the “Blue Gate” district: this could be a new opportunity for finalizing the installation of PVs, yet, it still needs to be clarified.

2.3 Mixed feelings

With all this in mind, some partners have the impression of “surviving” with the feeling that the project has already come to an end and that no extra results can be achieved in the remaining months of the project. The pandemic would have precipitated the end of the project. At the same time, other partners feel there is still time for continuing, experimenting, trying out, also

bearing in mind the extension requested for the infrastructure-related aspects of the project.

This 5th Journal presents the administrative, economic and emotional realities behind these attitudes, while stressing once again that the project has not stopped during the last couple of months but has still been creating and self-assessing all along the way.

3. LAST MILE AND WRAPPING UP

The project is now in its final stage. The project was officially meant to be finalized by December 2020. Because of the Covid-19 pandemic, an extension has been asked for in order to finalize the infrastructural investment: the building of the CIRCUIT and the purchase and installation of PVs. Yet, the remaining of the originally foreseen activities will be finalized in the next couple of months. Efforts have been made to adjust to the situation while sticking to the original KPIs, if not

to all originally planned activities. Except for the infrastructure, almost all the aspects of the project have now been implemented and finalized or about to be.

To this extent the overview of the activities is the same as the one from the previous journal: almost all activities have already been started and well implemented and are currently deepened.

Stream	Technical devices	Modalities	Interface	Activities
Electricity	PV BIPV Storage batteries Smart plugs	Online Community Engagement Transition board	Dashboard	Creation of a cooperative
Heat	Smart sensors	Data treatment procedures		Circular coin Smart contract
Water	Smart meters			
Waste	Smart waste bins A-card	User profiling Business logic Nudges Blockchain		Waste challenges Group purchase
Material		Recruitment of Repair buddies and makers	A Circular Community Centre (CIRCUIT)	Leasing of tools and devices Repairs cafes Circular material workplace Redesign service Study visits

Update on the Antwerp Circular South project
(Source: UIA Expert)

Notwithstanding the above-mentioned difficulties, partners have felt the following strong achievements and highlights for this period:

- The nudging experiments are going on, and in a functional way;
- The app is functioning and has been improved;
- The group purchase was launched;
- The new location for CIRCUIT could be visited;

- New partnerships for the activities of CIRCUIT were created;
- The team was creative and reaffirmed the drive and capacity of the entire team;
- Many events, visits and workshops have been organized for the different streams for the project; and,
- Increasing online activities and presence for CIRCUIT.

3.1 Technical devices

The installation **PVs** (Photovoltaics), **BIPVs** (Building-integrated photovoltaics) and **electricity storage systems** which was the most challenging part of the project, was made a lot slower with the Covid-19 pandemic and the difficulties to convince owners to install them on their rooftops:

- Some owners have now **refused** to install PVs on their rooftops (Building 3 - Greendesk), assessing that the costs-benefits analysis is not advantageous enough for them to subscribe to the scheme.
- Other owners are **still negotiating** (Building 5 -Domitys, Zorgbedrijf, Amerikalei), embracing the delays in construction (Building 17). Discussions are also going on the Zuidervelodroom site, yet, the relations have been worsened by lock-down and the difficulty to get in contact, with fewer owners eventually deciding to join.

The major change which has a strong effect on the project is the fact that Plein Publiek will move location by the end of January (see section 2.2). Time is too limited to make it worth installing the system on this new site. Planning and discussions are now on-going about the future location which might be further south in the “Blue Gate” district: PVs could potentially be installed there, but it still needs to be clarified.

At the same time, new negotiations have **opened** with buildings 13 and 15, with the usual balance between the motivated owners and the risk averse ones. Discussions are also open with the Antwerp South Heat plant to install PVs on their backside near the highway.

As for batteries, they have not been installed in houses even though they would be needed in the

next Energy nudging experiment. It has appeared to be too difficult to install them as originally planned in common space of building, as participants are scattered into different buildings. At the same time, the battery developed in the PV-Battery Lab at VITO/EnergyVille has been delayed due to the pandemic and the reduced possibility to have numerous staff on the site (re physical distancing). In order to combine these issues, VITO/EnergyVille has therefore developed a virtual model that will be used for the experiment.

In parallel, Public Procurement has been successfully launched as a Framework contract with three suppliers for PVs, BIPVs and Batteries. Notwithstanding the delays and the unsure outcomes of the next couple of months, partners have still not adopted an approach to deal with available PVs, BIPVs and batteries for which budget would remain at the end of the project. They stated they wanted to remain optimistic about it.

Out of the original project of purchasing 200 **smart meters** (plugs and sensors) it was decided to reduce this number to 140. 54 have been distributed to households. The installation was stopped with the pandemic. Also, when the installation resumed, a team member was infected with covid-19 which forced a pause in the process. The team is seeking a solution to be able to use the smart meters after the end of the project: it hopes for an agreement with the smart meter provider that data flow will be still available. Yet, the smart meter provider has been bought out by a company which is about to stop these activities. As part of a breach of a contract, the team hopes to be able to negotiate some services with this or a replacement company.

Discussions are also on-going with the Real Estate Developer Triple Living to preinstall the smart

meters in new homes: an added service for new owners who could enjoy it directly.

3.2 Back-office modalities

The recruitment for the Community of **New South** was totally disrupted during lock-down and the varying covid-proof measures which were implemented in Antwerp. Notwithstanding the inherent limitations to online activities, some new activities were organized: communication took place via social media and newsletter, E-peritives gathered residents online during lock down (see below) and 'ruilaperitief' in person

when physical contact became possible again (see below), webinars took place to promote the nudging experiment and CIRCUIT organized a series of offline and online activities (see next session). After the Summer, all recruitment activities by the City of Antwerp have stopped: if residents show interest, they are signposted to CIRCUIT and the Renewable and Citizen Energy Community.

e-peritives

E-peritives came from the idea to keep residents engaged, not only at the level of actual (limited) activities off site but at the individual level while sharing individual experiences and emotions about the situation. Their objective was to keep the flow of communication going. 4 sessions were organized where residents were invited to join with a glass and discuss about the life in the neighbourhood, looking forward to what would happen once the situation would change. 4-6 people for each of them in April and May. It has been quite successful in design even if many residents moved to their second homes during this period or were overloaded with other similar activities.



Invitation to e-peritives (Source: Circular South)

RUILAPERITIEF'

When physical contacts became allowed again, residents were invited to go to Barchel (a local café) with an empty wine bottle. They would in turn receive a recycled glass from Botega (see below) filled in with a drink. 15.00 to 16.00, 11 people passed by (9 who knew about it, 2 new people).



Ruilaperitief' on 11 July 2020 (Source: Circular South)

The concept of the **Transition Board** has now been finalised. Originally, the project envisaged to use the inputs of the experts to feed into the project. With regards to the delays in mobilising the experts, they will be engaged to share the learnings of Circular South more broadly. Experts will be invited to thematic podcasts based on “key ingredients” the project partners feel they have learnt from during the project. These podcasts will engage with other projects and

provide a bigger picture to Circular South and will also contribute to the final conference.

The content of the nudges is now fully operational, together with **data treatment** and integration, **business logic** for energy and waste, endpoints for ACPaaS data, virtualisation, Customer Energy Management System, and **blockchain**. The **nudging experiments** have been continued. In March and April 2020, two experiments related to residual waste reduction gathered 30 and 35 families (see box below).

The residual waste nudging experiment.

This experiment aimed to reduce the total residual waste in the neighbourhood by 10% (531 litres for all the participants, 16 per family, based on February benchmark). The more residents would contribute individually to the success of this challenge the more they were rewarded with circles.

During the campaign, participants received two tips per week for helping them to reduce their waste, for example: « *Have you bought a larger amount of meat or fish from what you can eat? Then freeze the part that you do not eat immediately. Meat and fish will keep well in the freezer for months. In the refrigerator, an opened package of meat or fish is only good for 2 days. This also applies to prepared meat and fish.* »

Lock down led to increased food waste at home and the target was not met, neither in March nor in April. A further research end of April sought to explain how people dealt with their waste consumption when being at home in lockdown. 14 people had completed it and 8 indicated they had produced more waste during this period, especially in terms of paper (e.g. due to online shopping); glass; food and vegetables (e.g. due to home cooking producing peels and other non-edible parts).

The project has launched a new similar experiment after the crisis, in October 2020, in relation to the 3rd Waste challenge to compare with a “normal” situation and to take advantage of offline activities.

Another nudging experiment was then launched from mid-May to mid-June, which was more successful. It focused on energy consumption and behaviour shift and involved 29 people (see box below).

The energy nudging experiment.

Participants had to reach the target of 10% reduction of their electricity consumption and to consume when green energy production would be the highest. Participants received a daily notification about the availability of green energy, together with energy saving tips. After each week they could compare their weekly consumption compared to a reference week before the experiment. Participants could also see their evening consumption (a new energy meter feature in the app) which should be lower if they succeeded in shifting energy consumption towards sunny day periods. This experiment (duration of 4 weeks) was successful with:

- **The reduction of electricity consumption with 10% compared to a reference week before the experiment (29 participants):**
 - o 3% managed to decrease for all 4 weeks

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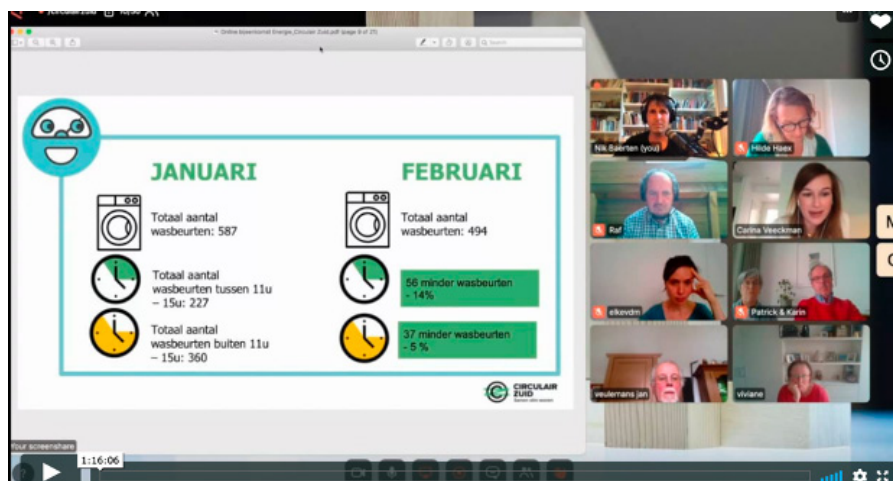
The energy nudging experiment.

- o 17% managed to decrease for 3 weeks out of 4
- o 38% managed to decrease for 2 weeks out of 4
- o 21% managed to decrease for 1 week out of 4
- Shifting their electricity consumption to hours when green energy is the highest, so that the electricity consumption during evening peak hours decreases with 15% (27 participants – the data of 2 participants being corrupted, it could not be analysed):
 - o 26% managed to shift more than 15% of their evening electricity consumption

An online survey with 23 respondents (9 participants of the experiment, 14 nonparticipants) showed that the aims of the experiment very clear to the participants. The team spent quite some effort in raising awareness about the notions of shifting behaviour and noticed that even though at first people focused more on “reducing” than shifting, after the experiment, they understood shifting, aim and advantages: 7 respondents said they would follow up the lessons learnt after the experiment. This was probably thanks to the daily reminders sent to them. Participants would consume during the day rather than during the night even though it is more expensive: the intrinsic value would prevail. (To be noted, they would receive circles to compensate).

The waste and energy experiments were fed back – for the former, and introduced – the latter, via webinars on 15 and 18 May 2020. IMEC and VITO/EnergyVille discussed the outcomes of the former experiment and contextualized the feedback enabling addressing direct questions of

the participants. The rules for the energy experiments were also explained during this meeting. The set up and multi actor and multi-disciplinary aspect enabled the 5 participants of each webinar to get the full breadth of the topic and to show interest by their questions.



Nudging experiment webinar with the participants
(Source: Circular South)

The nudging experiment on water which was meant to be taking place in August 2020 is postponed because of the pandemic: because of the Municipality of Antwerp sanitary rules, water meters have not been installed yet and it is unsure up to when. The next experiment, on waste, was launched in October. In order to make maximum use of the project, the Circular South team will then focus on sustainable nudging instead of repeating the originally planned energy experiment.

CIRCUIT keeps on playing a role as incubator for start-ups with chosen **makers**, as for the Botega project which collects wine bottles to reconvert them into glasses². **Buddies** support the development of new activities, such as a biking trip organised in September from 18 to 20 September 2020 with 10 people wishing to make a biking tour in Flanders while camping outdoors.

3.3 Interface

According to the project timeline and budget, the **application** was meant to already be finished. Yet, with regard to the feedback received (see previous journal) and the securitisation of a budget shift, higher-detail graphs (e.g. new energy meter) and expanded benchmarking were developed. This work was not impacted by the pandemic.

The construction of the future location of CIRCUIT, so-called Palazzo Verde, has been delayed for 3 months. Yet, in the meantime, Circuit is looking in its activities and integration in the neighbourhood and hosted a tour on the construction site in collaboration with Triple Living, where 24 residents were present. Some criticisms were made on the progress of the



Promotion of the Botega project (source: CIRCUIT)

urban development, but the overall atmosphere was positive. Moreover, the residents appreciated that they were actively involved in the process.



Visit to Palazzo Verde, 2 July 2020 (Source: CIRCUIT)

² Botega (<https://www.facebook.com/Botega.be/>) is an Antwerp circular product maker, which reuses old wine bottles to transform them into drinking glasses. It has joined the Antwerp Circular South project via the activities of CIRCUIT and in particular the group purchase.

Work on the Business Model has been slowed down because of the sanitary situation but also due to the fact that the move to Palazzo Verde was moved from 20 October 2020 to 2 May 2021, leaving more time to finalise it. A visit to a somehow similar project in Brussels, [Yuman](#), was also organised on 9 October to learn from

their experience. The main issue still remains to balance the commercial and social purpose of the location, bearing in mind the high cost of the rent. They had identified 5 bar owners potentially interested, 2 remained after the crisis (the other 3 not wishing to take financial risks in the current situation).



Visit to Yuman in Brussels, 9 October 2020
(Source: Marcelline Bonneau)

3.4 Activities

The work on the **Energy cooperative**, the “Renewable and Citizen Energy Community”, has not stopped with the pandemic. Meetings were organised within the partnership as well as with building owners to find suitable locations to install PV installations. Administrative and financial preparatory work also moved on.

Citizens were invited to take part in a fourth energy café on 23 June 2020, online, with an introduction of EcoPower and Circular South project, to energy

group (citizen energy community) and current status of energy projects in the pipeline. Also, a visit was organised in person on 7 July with the residents of the Velodroom site to explain the collective PV installation mode. This visit enabled people passing by to join by chance, first from far away, then getting more involved. In terms of visibility it helped the project. In terms of engagement though, this has not been the most successful as too new and fresh for people to sign in.



presentation of PV installation models at Velodroom on 7 July 2020
(source: EcoPower)

The **circular tokens “Circules”** are fully integrated into the nudging experiment (see above).

The third edition of the waste **challenge “FC Minder Afval”** was delayed to early October 2020 instead of June. Then recruitment took place online. Unfortunately, even though starters kits had been ordered, they could not be delivered. Yet, this wave was supported by 427 participants (instead of the 660 of the second wave). Results were difficult to assess as a third of participants saw their waste declined, another third – increased and the last third – remained stable.



Launching the third FC Minder Afval via mail
(source: Circular South)

With regards to the **green waste challenge**, no **composting** sessions were organised because of the lockdown (3 in the last project period). A contract was also signed with the composting manager, Posthof vzw, for further collaboration: this is positive for current collaboration, yet, the contract being valid until the end of 2020, it is unclear whether all the planned (delayed) activities will be able to take place within the

limited timeframe. Another session will be organised in September and a bicycle tour in October. However, as Plein Publiek will have to move, and due to the difficulties to find a suitable place for the composting unit in the neighbourhood, it will not be available anymore on site, reducing the possibilities to organise further activities by the end of December.

As for the **plastic deposit challenge**, it had been approved by the City end of April. Public procurement went on well, the machines had to be installed after the summer. Yet, the approved supplier shared doubts about such a small-scale project and the time limits for its implementation of behavioural change, and the lack of wider City (promotional) support. Putting aside its economic interests, the supplier stepped down. CIRCUIT was meant to move end of October, leaving limited time for the installation and test of the machines. In parallel, the team identified a grant owner from the same department who could prepare and transform the plastic which would have been collected by CIRCUIT. The grant owner expressed first interest and went off the radars: the City of Antwerp will use its grant to ensure it will take part in the project.

CIRCUIT has also been strongly affected by the pandemic, especially as its primary goal is to bring people together to build up a mutual feeling of belonging as well as sparking people’s interest for sustainable living practices. The COVID-19 outbreak jeopardized almost all of their actions:

- From March to mid-June: All actions in person stopped → online
- Mid-June to July:
 - Facilitation of the creation of **DIY sanitary masks** with an NGO Zewopa, with a few enthusiasts with textiles selected by Circuit.

- o **Café Circuit**, on Thursday night, each fully booked with 20 participants (9 July 2020: “Water: is there cause for panic?”, with The River Clean Up; 16 July 2020: “how smartphone applications and sustainability can go hand in hand”, with BEEGO; 23 July 2020: “Guided walk in the Hobokense Polder” with Natuurpunt)
- o Collecting **empty wine** bottles for Botega which makes glasses from used wine bottles (from citizens instead of original providers – cafés and restaurants) – closed during lockdown). This also appeared to be the option for residents to meet and vent their feelings with one another after the, mentally demanding, lockdown.
- o Available for appointments by e-mail
- o Special pick-up service for repair (see below).
- Since August: closing of Circuit and all of its activities → online.



Café CIRCUIT of 16 July on 2020 “how smartphone applications and sustainability can go hand in hand”
(source: CIRCUIT)



Collection of glass bottles for Botega
(source: CIRCUIT)

Pick-up service for repair

People could ask for a pickup service for having their bikes, electronics and textiles repaired, with the option of doorstep delivery. It is managed via an online form (<https://www.dekringwinkel.be/centrum/2/page/herstelservice.html>). As a result, people were not obliged to come physically to Circuit, thereby lowering the risk of contamination. The automation process makes it possible to easily keep an overview of the actual market demand for these activities.



Repair form (source: De KringWinkel website)

The **online activities** took the form of presence on social media:

- qualitative digital content;
- curated and spread relevant digital events;

- promoted staycay holidays through self-created content; and,
- and continued to share content that supports a sustainable lifestyle and critical thinking.

The videos have received the following success (from the launch of the videos up to 7 September 2020):



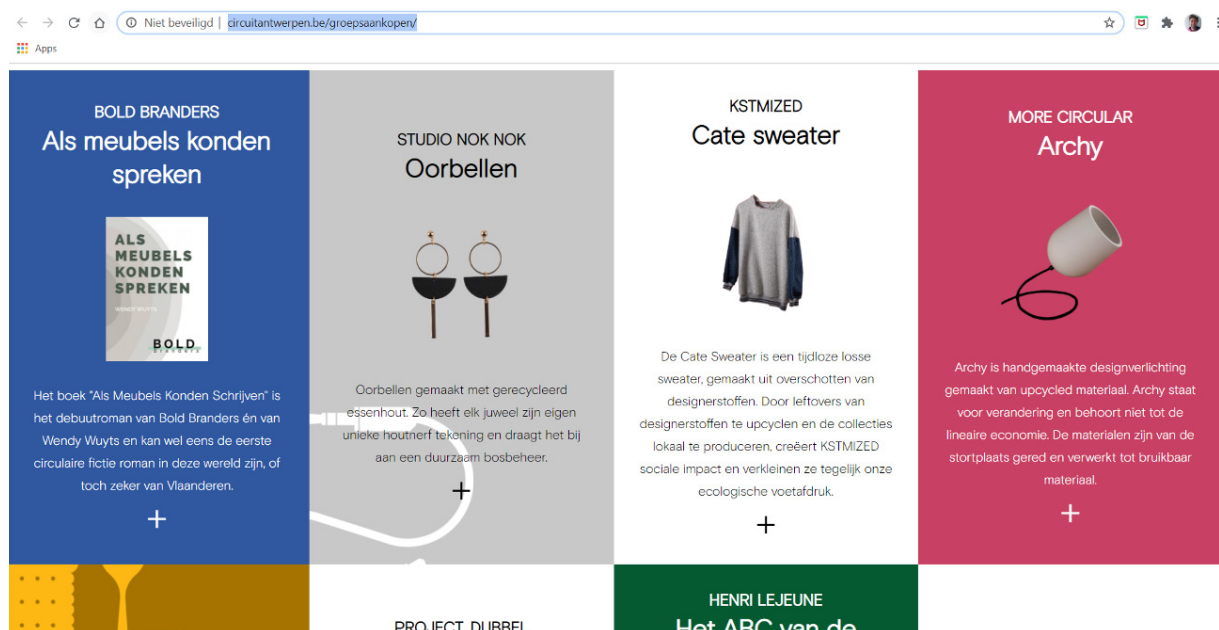
Various online activities of CIRCUIT (source: CIRCUIT)

Movie clip	Views on Facebook
Reclaimed	1400
Ready to rock!	1100
DIY memory tutorial	131
DIY bread	829
DIY T-shirt textile	284
DIY jeans repair	116
DIY easter	143
Group purchases	245
Total	4248

The **group purchase**, managed by CIRCUIT, was launched and 11 products were selected and available for purchase online from 9 July to 9 October: glasses, the book “the ABC on Circular Economy”, a travel bag, sunglasses, a paper pack, earrings, a sweat shirt, a chair, the book “Als Meubels Konden Schrijven”, a lamp, a piece of soap, a pouch bag, a cleansing spray and a kimono. The promotion is made online

exclusively due to the pandemic, even though a promotion banner in wood was prepared. The website (<http://circuitantwerpen.be/groepsaankopen/>) is operational. By the end of the period, 263 potential customers were linked with circular entrepreneurs and the requests to join the purchase had been as follows, confirming the minimum thresholds of interests achieved for 7 of the products:

Product	Number of interests	Percentage of achievement
the book “the ABC on Circular Economy”	71	100%
cleansing spray	59	100%
Glasses	37	100%
Earrings	21	100%
Paper pack	17	100%
Soap	17	100%
Sweatshirt	10	100%
Travel bag	8	80%
Sunglasses	8	80%
Book “Als Meubels Konden Schrijven	5	50%
Chair	3	30%
Lamp	1	10%
Pouch bag	1	10%
Kimono	0	0%



Online group purchase
(source: CIRCUIT)

4. ONGOING CHALLENGES AND ADJUSTMENTS

This period is confirming previously addressed challenges and bringing in new ones: the evaluation of the added value of the project is becoming key to making sense of the ending project, and the political dependence stresses

the inherent context of such project. The project realises its limited integration in the overall organisational structure. Finally, as the project reaches its end, human resources get distorted.

4.1 The actual, societal evaluation of the project

The overall evaluation of the project is now under question. On paper and for administrative purposes, KPIs are well monitored by each and all the partners (see for example CIRCUIT's approach in the box below). Yet, there is no structured monitoring system for the whole project: it is currently very fragmented per deliverable and KPI, related to specific deliverables. For example, Ecopower continuously monitors and evaluates the state of implementation, by monitoring the

email box of Circular South (circularzuid@ecopower.be), monitoring the Loomio-platform for EV sharing and during the events that they organized (energy café's, info event Velodroom, ...). However, no specific monitoring tool was developed. This question will be addressed at the next partner meeting and see how the project can deliver not only quantitative reports, but also a qualitative report on the process, the results, the collaboration, presence, team, civil participants, ...

CIRCUIT's monitoring and improvement plan

CIRCUIT has developed a rich approach to monitor its activities and improve them in the remaining months of the project:

- the automation of the website for the repair activities enables keeping an overview of the actual market demand for these activities – and adjust related activities;
- these automated workflows monitor the subscriptions for Café Circuit;
- development of steps towards a more systematic and analytical approach to manage the Facebook page effectively. For example: the total amount of likes increased with 5% between March the 1st and August the 18th, only 14 decided to unlike the page and roughly 3 500 people engaged with content that was either created or shared. These numbers state that CIRCUIT continues to play a role in informing our audience with interesting, relevant infotainment;
- Future plans include identifying potential brand ambassadors (also referred to as 'superfans'), based on likes and reactions as well as real life interactions hoping that they will support the project's messages on- and offline.

Also, the overall, latent, objective of the project is consumer behaviour change. Nevertheless, no specific KPIs have been set up for this. Rightly, the nudging experiments have identified changes in energy consumption (e.g. the success in the energy experiment of September). All the activities of CIRCUIT as well as the waste challenges have also been successful and potentially led to adoption of new practices. The added value of Renewable and Citizen Energy Community can be inferred from the number of participants reached during the energy café, emails received from residents during the project and the number of members of the Renewable and Citizen Energy Community. *“We are quite confident that we created a possibility for these residents to co-create a more sustainable future*

for their neighbourhood.” stated Ine Swennen from EcoPower.

To which extent have people actually changed, with what future prospect? How can this be captured? What has been achieved with the project? These are crucial and tricky questions for policy-makers and civil servants, as well as academics, as it is extremely difficult to assess (and even more to link it to carried out activities).

This question goes beyond this project but could be addressed to all UIA projects in a way of assessing not only the output-related KPIs linked to the grant provision, but the wider societal outcome which provide a meaningful purpose to these projects.

4.2 Continued political dependence

As mentioned in the previous journal, political dependence is still important in this phase. The project appears to be dependent upon the personal interests of some aldermen/vice-mayors together with existing economic bounds these seek to protect. It also seems that the priority is not that of investing in a neighbourhood which is too high end (5.000 euro per m² for purchasing a flat) to be justified. They seem also to be reluctant about “playing God” in trying out nudges and their impact on changing behaviours.

At the same time, these adjusted priorities can also have been a boost for some activities. Some aldermen are also considering growing Circular South as part of a bigger story, towards a more

renewable city, and to be included in the City’s Climate Action Plan. This is also quite crucial at the moment, Triple Living has been penalised for the limited energy efficiency of its buildings (which can be explained by the lack of sustainable local energy production): it is now putting pressure on the city to transform the local heat plant into a renewable energy-fuelled plant.

At the level of regulations, the project has also been strongly affected by the stringent measures against Covid-19, whereby there was interest and motivation from citizens and the team to organise offline activities but were prevented to do so. Due to the pandemic as well, priority on the project has been lowered.

4.3 Limited integration in the overall organisational structure

“The team of Circular South is in the driver’s seat. Other departments help us, only on demand.” Maud Coppenrath, project coordinator stated. It

appears that collaboration with other city departments can take place when there is need, but it is not structured and is only one-way:

Circular South team asking for support. There is no demand from other departments, no self-analysis nor interest as well as no links with other projects. *“It’s as if we did not exist”* continued Maud Coppenrath.

This can be explained by the lack of intake with the other departments and politicians of the project at its start. Which has then led to convincing them regularly of the innovative value of the project and the possibilities to change

policy in the longer term or to further test or implement the learning points in other projects/ neighbourhoods.

This is also leading the project to have more international charisma than local: *“Maybe you start networking more with other European projects, because you are obliged to or want to see references and learn from others.”* Tried to explain Maud Coppenrath.

4.4 The limited staff resources

The pandemic led to changes in the staff structure of the project. Some partners for example went into technical unemployment (De KringWinkel). For others (such as De KringWinkel and VITO/EnergyVille), the limited number of people in an office due to physical distancing limit the number of tasks which can be performed and/or prolong them.

The fact that we are reaching the end of the project is also a new challenge in terms of staff resources, especially for the City of Antwerp. Indeed, the team is paid by the UIA-funding, which was meant to end this year. As such, team members have been asked by their hierarchy to look for other opportunities, leading some to already take up new tasks before the end of the project, in combination with the tasks of Circular South project.

4.5 Overview of challenges

Reaching out towards the end of the project, the assessment of the UIA challenges varies somehow

from previous journals, stressing a more mitigated view, in light of what could be improved.

MAPPING ANTWERP CIRCULAR SOUTH AGAINST THE ESTABLISHED UIA CHALLENGES

Challenge	Level	Observation
1. Leadership for implementation	Medium	As described in section 4.2 political dependence is still very high in the project, sometimes for worse, sometimes for better. In terms of coordination, the team is welcomed for its effort and on-going support to the other project partners.
2. (Smart)Public procurement	Low	No issues have been identified in this period. The team from the City of Antwerp learnt from previous periods and collaboration with the Central Purchasing Office has improved significantly. The procurement for composting session, due to its small amount was done with little difficulties. It was similar for the Reverse Vending machine as it was also done by directly requesting for quotations via email. The framework procurement for the PVs, BIPVs and batteries has also been successful.
3. Organizational arrangements within the urban authority	Medium	As presented in section 4.3, there is a lack of transversality and integration in the Municipality. It is not a hurdle for the project but a limitation to the learnings, which can happen within the Municipality.
4. Participative approach for co-implementation	Medium	The partners have gotten used to communicating online during most of the last period of the project. Even though the pandemic has created some distance, collaboration on specific tasks (e.g. the offline activities, the nudging experiment) has been praised. Technical unemployment did not prevent the continuation of the project – with the colleagues helping on most urgent issues. For Hannes Dams, from De KringWinkel, co-creation has to some extent been affected. <i>“All partners were obliged to focus on their own, internal operations during the last few months. Since this is quite a unique situation with no existing blueprint to handle its consequences, all energy and resources were needed to address these new challenges. Therefore, co-creation and collaboration could be perceived as ‘no urgent matters’”</i> . Whereas Ine Swennen from Ecopower stressed that <i>“sometimes it has been necessary to remind one another of the tasks that were assigned to which partners”</i> .
5. Monitoring and evaluation	Low	As is presented on section 4.1, on paper, monitoring and evaluation are going on well. The main reflections apply to the efficiency of the monitoring system and the adequate societal evaluation of the project.

Challenge	Level	Observation
<p>6. Communication with target beneficiaries</p>	<p>Medium</p>	<p>As presented throughout the journal, online interactions have taken place with the beneficiaries. Yet, as mentioned in previous journals repeatedly – <i>“communication/co-working with residents is fantastic and grateful, but very difficult. All depends on the intrinsic motivation of these people”</i> as stated by Maud Coppenrath. Several digital ways for communicating:</p> <ul style="list-style-type: none"> ● Waste campaign: influencers online, emails; ● Group purchases: social media campaigns; ● CIRCUIT: emails, newsletter, calendar with activities, Facebook, WhatsApp ● Energy Community: Newsletters (via mail, invitations (via email, website, Hoplr, WhatsApp,...). ● Nudging experiments: app, webinars, newsletter ● Through the app <p>Although the team felt a lack of interest from online activities at first, café CIRCUIT quickly filled up and the waste campaign attracted 427 people.</p>
<p>7. Upscaling</p>	<p>Medium</p>	<p>The City is envisaging Circular South and its outcomes in the Climate Action Plan. At the same time, the City team of the project will move on to new responsibilities and no clear city follow-up of the project has been identified. The new funding, which was applied for was not successful. Yet, this is counterbalanced with the wish to organise a wide-scale online conference in December to share the learnings and results of the project.</p> <p>From the viewpoint of the Renewable and Citizen Energy Community, optimism is still there to get higher interest to join, to link to “climate streets” and envisage new places for PV installation. Ecopower will continue working on this type of Community after the UIA project. CIRCUIT will be operational in Palazzo Verde.</p> <p>EnergieID will transform the app into a generic EnergieID-app that can be used by all EnergieID users across Europe, and for new projects.</p>

5. WHAT ARE THE NEW LEARNINGS OF THE PROJECT?

The new reality forced the project to get adjusted to the increase of online interaction. At the same time, Covid-19 pandemic can be seen as both a blocker and a driver. While seeking to achieve its original objectives, the project realises that

beyond the mere achievement of KPIs, the experiment is a success in itself and that behaviour change is possible, with the right support.

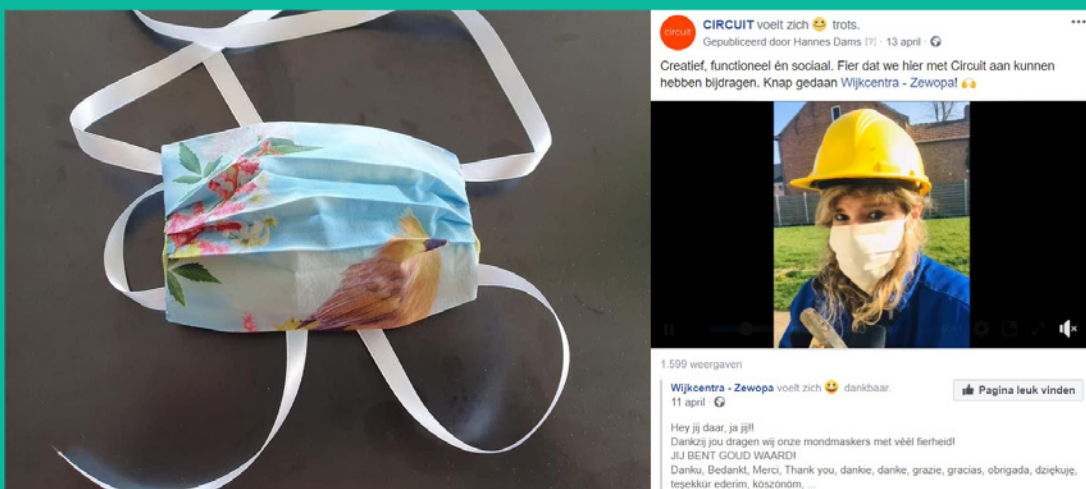
5.1 Getting adjusted to the reality of online activities

Partners were forced to and have observed the change to moving all their activities online. Even though this has not been a choice, some noted the benefits in terms of sending and receiving up to date information, following up and monitoring,

increasing the use of social media and capturing an interest broader than just that of the neighbourhood (see CIRCUIT's moving online strategy below).

CIRCUIT moving online strategy

CIRCUIT attributes the online strategy to two colleagues: an online marketer and a community builder. As soon as the lockdown was announced, they launched a call for video content to inspire people to play with DIY ideas indoors. This led to a small co-created database of DIY video tutorials on the Facebook page. Another call invited to sew facial masks with the support of Zewopa NGO. In turn, the increased credibility of CIRCUIT gained through the group purchase led to teaming up with Botega.



DIY Sanitary Mask prepared by Zewopa and CIRCUIT (source: CIRCUIT)

Partners have still faced the need to be having physical contacts. It has been difficult to move on with recruitment solely online. Participants have also been affected by the lack of communication for some time – because there was nothing to communicate.

They have tried to combine the two. For example, for the nudging experiment on water, a package was sent by post with a leaflet, 3 saving tips with stickers (toilets, washing machine, shower – e.g. shower coach, which can be bought at Ecohuis with circles).

5.2 The COVID-19 crisis as both a blocker and a driver

Stating that the pandemic has not only brought difficulties but new opportunities, could seem to be too easy or overoptimistic. Yet, it is clear that with such an innovative and looking-forward team as we have seen in this project, solutions had to be envisaged which brought in new ideas to the project.

Offline activities have been strongly affected by the situation, bearing in mind the different stages of barriers and permissibility of social lives, which are still unsure at the time of writing. Christine Van Derslijen expressed her distress as *“as the offline manager, I am constantly plagued by the new evolutions of the crisis. New projects or ideas are always delayed which is frustrating. On top of this, we are working from home and since I am already often working more alone on my projects, this makes me feel lonely and difficult to feel engaged with the group, the project and the colleagues.”*

The stringent measures prevent civil servants from being on the ground, and when they find solutions, such as externalizing the installations of the smart meters, these can be stopped as well – as in this case the technician was affected by Covid-19.

At the same time, partners expressed that exploring new formulas for recruiting was

a creative process and reaffirmed the drive and capacity of the entire Circular South team (including partners). The drive of the team has been a motor to remain alert and keep the focus on the progress and the results to achieve.

The situation has also strengthened the positions of the partners in the previous periods: the need to be strategic and looking-forward even more than before, the need for a strong moral in times of uncertainty and demoralizing events. Just to mention one case, the plastic deposit challenge had finally managed to extract its way out of economic, practical, research, and community engagement difficulties and is now facing again new blockages (see above). Christine Van Derslijen despitefully stated this was *“The most frustrating offline project.”* New regional regulation on self-produced energy also hinders the visibility for future investors/members of the Energy cooperative. On the contrary, Raf Ponette from VITO/EnergyVille shared its optimism: *“It’s all a matter of time.”* The project extension should indeed support this. For Jim Williame, it has been and is difficult. Yet, a large part of the project will be achieved, and the idea will remain *“In any case, we will move further with the concept of the Energy Community”* pointed Jim Williame.

5.3 The experiment is a success in itself

On paper, not all the KPIs have been nor will be reached by the project. For example, the originally

foreseen 200 residents have not and will not be recruited for the experiments, notwithstanding

all the efforts. The 140 purchased smart meters will not all be distributed to residents. Yet, other KPIs, when taken individually have been or will be achieved or overachieved (e.g. the over-organisation of offline activities)

A big question appeared for the City team, one that probably all project managers ask themselves at the end of a tumultuous project but also especially with regard to the current pandemic circumstances: *do we have enough results to share and are they strong enough?*

Doubts have been raised about reaching out the KPIs since the first journals and stressed the penultimate and this one. Yet, the expert has

sought to show in all the 5 first journals and 2 zoom-ins, not only have achievements been extremely important (not to repeat them here, they are listed in each Journal and zoom-in), learnings are also extremely important in this project.

And as Nik Baerten, from Pantopicon, put it *“this is an experiment: by its own nature we knew we would not reach all the KPIs. But the experiment itself is a success: how much has been done, how many creative solutions have been developed, especially during the pandemic, what is not reflected in the KPIs!”*.

5.4 Change is possible, with the right support

Related to this, the rationale for the project was to change people’s behaviour. Bearing in mind that the project has been *“handicapped over time by the lack of integration of all the elements of the project, as PVs, BIPVs and batteries, have not been included in the experiment”*, as Sam Verbelen, Innovation Manager Energy and Water at the City of Antwerp, stressed, the following success can be observed:

- It is difficult to change the perception of people with regards to PVs. Even if the project takes away the difficulties to install PVs, BIPVs and batteries, residents do not see the added value. They see it as an extra burden and responsibility, e.g. to read a contract.
→ yet, these have been put on the agenda of residents by making them visible and planting a seed for future behaviour change;
- The data from the nudging experiment cannot be generalized and used statistically.

→ yet, information from these experiments as well as from the waste challenge show the individual journeys and learnings, or as a participant stated, *“the start of a new life”*.

- Behaviours vary on a large scale and one approach cannot suit all.
→ yet, a questionnaire will be designed to assess these at the end of the experiments.
- Because of time, infrastructure, pandemic, the project has not been able to integrate all its different aspects:
→ yet, some new partnerships have been further developed and created, e.g. CIRCUIT with the City of Antwerp for the group purchase and with non-project partners (e.g. IKEA, Zewopa, The River Cleanup, BEEGO, Natuurpunt and Etheclo³).

³ For the creation of beds out of thermoboxes, with IKEA mattresses, for homeless people.

6. WHAT'S NEXT?

The next couple of months will be crucial to the finalisation of the project:

- Installing PVs, BIPVS and storage batteries;
- Exchanging with the Transition Board on the outcomes of the project;
- Installing latest smart meters
- Launching of next nudging experiments (water and energy);
- CIRCUIT: Move to Palazzo Verde; Biking trip (see above); a Fashion Festival on 27 September; Veggie Brunch; Products

developed with IKEA now being sold: a showcase of plants and bathroom carpets out of old t-shirts; work on the Business Model;

- Renewable and Citizen Energy Community: continuing to consolidate it;
- Organisation of a final conference to disseminate on the project and its results.

In our next and final journal, to be published Autumn 2021, you will get an overview of the final stages of the project and its overall conclusions.

7. ACKNOWLEDGMENTS

This fifth journal was written based on the inputs provided by email exchanges and online discussions on 4, 7, 8, 16 September 2020, with all the partners:

- Maud Coppentrath, project coordinator from the City of Antwerp;
- Jan Pecinovsky, EnergielD;
- Jim Williame and Ine Swennen, Ecopower;
- Bram Lievens and Carina Veeckman, IMEC;
- Nik Baerten, Pantopicon;
- Raf Ponnette, Vito EnergyVille;
- Hannes Dams and Frank Dingemans, De Kringwinkel Antwerpen;

- Christine Van derslijen, Innovation Manager Waste & Materials, City of Antwerp;
- Sam Verbelen, Innovation Manager Energy & Water, City of Antwerp;
- Hilde Haex, Innovation Manager Community & Communication, City of Antwerp;
- Elke Van De Mosselaer, Communication Manager, City of Antwerp.

A site visit was organised in Palazzo Verde on 2 October 2020, and in Yuman (Brussels) on 9 October.

I would like to thank all the partners once again for their inputs, reflections and sharing of experiences on the past and prospects of the project, especially in these tricky times.

Urban Innovative Actions (UIA) is an Initiative of the European Union that provides urban areas throughout Europe with resources to test new and unproven solutions to address urban challenges. Based on article 8 of ERDF, the Initiative has a total ERDF budget of EUR 372 million for 2014-2020.

UIA projects will produce a wealth of knowledge stemming from the implementation of the innovative solutions for sustainable urban development that are of interest for city practitioners and stakeholders across the EU. This journal is a paper written by a UIA Expert that captures and disseminates the lessons learnt from the project implementation and the good practices identified. The journals will be structured around the main challenges of implementation identified and faced at local level by UIA projects. They will be published on a regular basis on the UIA website.



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