

# O MATERIALI PER UNA NUOVA EDILIZIA



# URGE

## Interview booklet

# Meet the partners: interview with Paulo Simões



The Intermunicipal Community of the West Region (OesteCIM) of Portugal is one of the 9 partners in URGE. Paulo Jorge Lopes Simões is the 1st Secretary of OesteCIM and is responsible for the circular economy strategy for the West region. Mr Simões plays a role in the project activities of URGE and has a background in public management and human resources.

## What has already been done in the West region in terms of circular economy in civil construction?

In the last two years, OesteCIM has worked on the implementation of circular economy in the region. Several projects have been developed, namely in the area of environmental education, through the distribution of environmental kits to students, a competition for entrepreneurship in schools under the theme of circular economy; distribution of ecopoints in several institutions, public procurement for the acquisition of green vehicles, backups and mobile communications and refunding consumers for the return of bottles made of non-reusable plastic. OesteCIM also joined the Green Deal of Center Region (NUT II), similar to the Dutch case, which intends to develop good practices of public procurement in the circular economy.

Circular economy in the civil construction sector is already a strategy in our region: the collection of waste has been encouraged so that it can be recovered and incorporated back into the streams of materials, to reduce the quantities extracted from the environment and thus reduce the ecological footprint. On the other hand, we encourage the correct disposal of waste and we discourage the abandonment of materials in the public and private forest spaces, which unfortunately happens very often.

At the level of public procurement OesteCIM has already developed framework agreements for the acquisition of green vehicles, backups and mobile communications. The municipalities and OesteCIM are currently doing their procurement processes under these framework agreements. Since most of the initiatives are as of yet private, OesteCIM aims to encourage more public initiatives.

## What are the challenges identified?

In recent years, the West region has witnessed a very large growth. Due to the many tourism awards that the region has received, many people are involved in the tourist accommodation sector. The West region has seven municipalities with coastline and good conditions to practice sea sports all year. Over the past few years, there were more than 3850 housing development projects. In this sense, there were massive levels of construction and reconstruction without the concern of incorporating circularity criteria. OesteCIM has

incorporated criteria for circularity in many of the procedures of agreement frameworks for acquisition of public purchases but until today there has not been a similar initiative for the construction sector.

Considering the growth of the tourism accommodation sector, the region and its 12 associated municipalities intend to set an example by including criteria of circularity in the purchases related to the construction sector so that, in a first phase, they are used in the construction and reconstruction of municipal buildings and, in a second phase, develop awareness and related actions at the main actors in the private sector. The main goal is to reduce CO2 emissions and make the territory of the West more environmentally sustainable.

### **What recommendations do you suggest and to whom, to improve their implementation?**

This project of OesteCIM represents an important contribution to raise public awareness of the problem of illegal discharges of construction and demolition waste, which may include hazardous waste, resulting in environmental liabilities and degraded landscapes. Seeing that construction is increasing in our territory, OesteCIM seeks to learn from the best practices to implement circularity measures in the construction sector with local partners in order to make the West region more sustainable.

The main local partners are the municipalities, for raising the awareness of the population and technicians on the importance of sorting waste and the importance of introducing circularity criteria that should be used in public tenders for the construction sector. Also, municipalities are important for training in public procurement procedures and circular criteria assessments and for imposing of circular economy measures at the private sector.

### **Who are the main interlocutors that should be the engine of the process?**

Companies and business associations are key through the promotion of seminars with the objective of encouraging the use of best practices in the management of construction and demolition waste and their incorporation into the value chain of companies. Public administrations, in particular local government technicians, play an important role in the regulation and monitoring of the waste sector. A number of initiatives are therefore essential to raise awareness and inform them of the current situation:

- Organization seminars to encourage improvements in the operationalization of the areas of competence of municipalities
- Development of dissemination actions with the production of contents to be made available online
- Field visits to production and treatment sites for construction and demolition waste, such as construction sites, so that the target public has a better understanding of how these waste streams are managed onsite and the development of framework agreements for procurement of materials with circularity criteria.

### **Are there already any examples or pilot projects within the circular economy in the region?**

As mentioned earlier, OesteCIM has already developed a range of projects based on circular economy principles.



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### *Solidarity collection campaign*

In partnership with Novo Verde and ERP Portugal, marking the European Week for the Prevention of Waste, a collection campaign for used batteries was launched. The initiative ran at schools and companies of the 12 municipalities of the West region (Alcobaça, Alenquer, Arruda dos Vinhos, Bombarral, Cadaval, Caldas da Rainha, Lourinhã, Nazaré, Óbidos, Peniche, Sobral de Monte Agraço and Torres Vedras). For every 500 kg of used batteries collected, €250 is donated to social institutions involved with essential goods and social works.



### *Distribution of environmental kits to 4th grade students*

OesteCIM, has delivered environmental education kits to all students of the 4th year in the twelve municipalities of the West region. The kits were composed of a backpack, pencil and canteen made of recycled materials and a booklet about the West region's territory and the importance of preserving it. The aim of the initiative is to promote the adoption of recycling behavior and the consequent attainment of the national targets set for 2020, not to mention the commitment of carbon neutrality and the progressive elimination of the use of plastic. The project delivers up to 4000 kits by May this year and is part of the set of initiatives for education for circular economy, carried out by OesteCIM and Novo Verde.

### *Distribution of collectors for batteries and small electrical and electronic products*

In partnership with ERP Portugal and Novo Verde, OesteCIM has distributed collectors for batteries and small electrical and electronic products in all municipalities of the West region.

### *Refunding consumers for the return of bottles made of non-reusable plastic*

The Oeste + RECICLA project in which the Norwegian company Empower is a partner, is based on the idea of using new technologies to promote circular economy. Voicing Empower's vision to enable people to create a better and cleaner world, the project's goal is to establish a deposit refund system for non-reusable plastic bottles based on the same philosophy of the Norwegian bottle deposit system. By giving value to plastic waste, flow of plastic into the environment can be prevented and the collection of waste in an economical beneficial way can be encouraged. By taking digital inventories, it also ensures that most of the collected plastic will be reused and recycled.

### *Awareness campaigns through human ecopoints*



During 2019, OesteCIM developed an awareness campaign at major events of the twelve municipalities of the West Region. The use of human eco-points conveyed the message of waste packaging and illustrated the importance of its recycling and the responsibility of citizens in the selective disposal of waste.

#### *Schools entrepreneurship competition*

Already running since 2014, the schools entrepreneurship competition targeted all students of 1<sup>st</sup> to 3<sup>rd</sup> cycles and secondary education of all educational institutions in the West region. Students who were interested in presenting a business project or idea could join the competition. Responding to the concerns of future sustainability of resources and population, the Schools Entrepreneurship Competition initiative of 2018-2019 was focused on circular economy areas in order to promote ideas with a focus on reducing, reusing, recovering and recycling materials and energy. The finalists of the West region represented the region in the contest of the NUT II Center.

Interview by Sofia Mendonça for OesteCIM

# Meet the partners: interview with Francisco Martínez Cañavate



The city of Granada is one of the 9 partners in URGE. One of Granada's most important stakeholders on the topic of circular construction is the Association of Builders and Promoters of Granada. Francisco Martínez Cañavate is manager at ACP Granada. The city of Granada spoke with him on the transformation of Granada's construction sector to circular economy, and what is needed to achieve this shift.

Undoubtedly, the selection of Granada to participate in this project means good news for the city. However, at the provincial and local level, there may be various obstacles regarding the proper development of a circular economy in the construction sector. What barriers or obstacles would you currently highlight?

It is evident that the rest of the province does not have the same availability or capacity as the capital to face certain advances. At a regulatory level, C&DW (Construction and Demolition Waste) management in the construction sector is quite regulated; however, on a day-to-day basis, that management may not be as adequate as intended. We must still raise awareness among many of the workers and entrepreneurs, who continue to hold old work habits in which an effective separation of the different wastes generated during the works is not taken into consideration; but it is also necessary to establish the necessary infrastructures, so that a regulated deposit can be made of the waste produced, in which the reusable fraction is extracted and can be used again as secondary raw material.

Why do you think it is important for the ACP to participate in this project and what do you think it will contribute to them? What added value and experience can the ACP or its associates bring to the project?

As an Association that encompasses a large part of the construction sector in the province, participation in the project offers a two-pronged approach, by being able to express the difficulties of C&DW in Granada, as well as proposing (in conjunction with people dedicated to other sectors) measures that should be taken into account in the political sphere, in order to improve and facilitate this task not only at the local level, but also in different locations throughout the province. As stakeholders with wide experience in the sector, we know first-hand the difficulties that our associates convey to us when carrying out the management of their waste in accordance with the provisions of current legislation, this being a valuable source of information to be provided.

Do you know of cases of good practices carried out by the ACP or its associates that could be transferred to the project?

ACP Granada acts as a catalyst for the various initiatives and standards centered around innovation, sustainability, materials and management between construction companies and developers, as well as giving visibility and promoting their implementation in an orderly and agile fashion. In general, the culture of sustainability and the circular economy is forming part of the DNA of companies, although there is still a long way to go, it is essential to reinforce actions aimed at disseminating and generating commitment in these areas.

**Do you think that in the current construction sector there is enough knowledge and commitment to carry out an orientation towards a circular system? If not, what steps do you think should be taken to achieve this orientation? Do you think projects like URGE contribute significantly to raising awareness about the circular economy in the sector?**

The initial steps towards this goal are already being taken. The construction sector is undergoing a period of renovation, and one of the improvements is aimed at the possible reutilization of other raw materials, as well as the use of those secondary raw materials. It is still undergoing implementation. From ACP Granada, in collaboration with the different professional associations or the Sustainable Construction Cluster of Andalusia, we try through informative talks to publicize the news of the sector regarding these matters, so as to make the sector more competitive and sustainable.

Projects such as URGE give greater visibility to a problem that has yet to permeate the entire population, and which contributes to the much-needed task of dissemination and awareness so necessary to reverse wasteful behaviors which have been carried out in the past.

**Do you think that there is currently enough access to financing and economic resources for a circular economy in the sector? And do you think that current technology and technical knowledge in the province prove sufficient for this?**

As I mentioned earlier, these changes are still in an initial phase. It is necessary to improve both the possibility of obtaining economic resources dedicated directly to this change (and for the technical training of workers), as well as the technologies used in waste management.

**Regarding the life cycle of construction products, do you think there is enough emphasis on design so that materials can be reused?**

To the extent possible, quite a few products already include that design, which allows for a new use after the initial one, but they are still not enough. To achieve a true circular economy every product on the market should bear this contingency in mind, especially since the regulations are already geared towards it.

**In the short to medium term, what measures would you propose to promote circular economy in the sector in our region?**

1. To promote information campaigns for a more reasonable consumption of resources, more adjusted to the needs.
2. To raise awareness among employers and workers to reduce the generation of waste and that those that are produced have an adequate separation and deposit for possible reuse.



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3. To improve efficiency in the use of water, implementing technologies to optimize its use.

Interview by Laura Mostazo for the city of Granada



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# Meet the partners: interview with Giorgos Michailidis



Kavala, on the Northern coast of Greece, is participating in the URGE network that aims to address some of the local challenges. Kavala through URGE also aspires to become a leader in promoting Circularity on a local level in Greece. Giorgos Michailidis Vice Mayor of Development, Planning, Digital Services and Youth, supervising the overall process from the viewpoint of an elected representative.

## What is the URGE project in which the Municipality of Kavala participates?

URGE is a project to promote circular economy in the construction sector and is implemented under the URBACT III program aiming to promote urban sustainability. Kavala is one of the 9 European partners that are jointly try to address these challenges.

## What prompted the city of Kavala to undertake such a project?

The Municipality of Kavala has already undertaken a series of initiatives for the integration of circular economy in its policies. However, the interest in this particular project was even stronger due to the significant building stock that requires demolition and also the pressures to the municipal waste management services due to the small-scale renovations of mainly short-term tourist accommodation. The significant quantities of bulky waste, as well as construction and demolition waste (C&DW), are a major challenge for the Municipality.

## What other cities are participating in the project?

A total of 8 cities and 1 intermunicipal community participate in URGE, each bringing its own experience. Utrecht is implementing extensive urban development to expand the city due to population growth. Copenhagen has incorporated life cycle analysis methods for municipal projects to integrate circularity. Munich is implementing a pilot utilization and reuse of C&DW on-site for concrete production. Prato in Northern Italy is implementing a redevelopment project including the selective demolition of an old hospital and the development of a park. Maribor, through the utility company Nigrad, utilizes C&DW in the construction of a road and prefabricated concrete elements. The Oeste intermunicipal authority has taken an initiative to map local productive activities to enhance circularity, and finally, Granada is using circular economy concepts in the redevelopment of social housing buildings.

## What does the Municipality have to gain from its participation in URGE?

First of all, experience and knowledge from cities that have already taken important steps in this direction. However, on a practical level, through this project, the Municipality will develop a comprehensive plan that will be implemented during the 5 years after the end of the project, i.e. until 2028. The integrated action plan for the city of Kavala aims to adopt solutions to reduce the production and management of bulky waste, the utilization of recycled C&DW in projects of the Municipality and the selective demolition for the better utilization of C&DW waste.

With these actions, the Municipality of Kavala aims to be a pioneer for circularity in the construction field in Greece and to integrate good practices horizontally in its operations. Specifically, the Municipality is already developing a pilot study for the utilization of recycled C&DW, a practice that can kickstart the market of recycled C&DW. Moreover, this practice can be easily adapted and adopted from other public bodies in the country.

It should also be noted, that the city also benefits by creating appropriate procedures for participatory and integrated development of action plans. The project is being implemented with the participation of all relevant departments of the municipality, the extensive participation of city key institutions, such as the Technical Chamber of Greece, local NGOs and associations, the university, but also the businesses that are directly concerned such as C&DW management plants and the respective recycling systems.

With the participation of the above bodies and matching the actions with specific financial tools, it is ensured that the interventions will not have a fragmented character and, above all, will not contradict other municipal initiatives.

### **What does the city of Kavala have to gain from this project?**

It should be noted that the project has a medium-term implementation scope. At the present stage, the Municipality is examining the feasibility and the impact that actions can have. Proposed actions include a platform for the reduction and better management of bulky waste, the utilization of C&DW in municipal projects, the selective demolition of a building and more. These actions will be evaluated and matched with specific financial instruments to ensure their implementation by 2028. Therefore, we are in the phase of evaluating possible actions with the participation of local actors.

However, the project also includes a pilot implementation action. In our case, the Municipality chose to develop a model study for the utilization of C&DW in municipal projects. This study will lay the groundwork for the broader interventions discussed above.

With the above actions, the citizens of Kavala will see an improvement in the field of bulky waste management, but at the same time, there will be a significant impact in a less visible, but very important sector. Let us not forget that the construction sector produces 36.4% of the generated waste at a European level, the largest source of waste in total with quantities generated more than four times greater than the waste generated by households.

Finally, the city of Kavala will benefit from integrated interventions that work in synergy with other initiatives of the municipality.



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## How are the actions of the project connected with other initiatives of the Municipality?

URGE's most important link is related to the green procurement initiatives. Specifically, the Municipality of Kavala as a member of the Covenant of Mayors has committed to reducing its carbon footprint by 20% in 2021, a commitment that was adopted by the annual budget of the Municipality for the same year, committing respectively 20% of public contracts in exclusively green projects. The Municipality of Kavala through the Making Spend Matter project also within the URBACT Program attempted and managed to integrate social and environmental criteria in a public procurement tender. Something that was achieved for the first time at the national level. This successful experience as well as the strategic procurement plan, concluded during the project, enabled us to plan the next steps of the URGE project in this logic. Thus, both the pilot study and the planned actions allow the practical implementation of green contracts in the construction sector (this time) in the Municipality. Overall, the Municipality with these initiatives will be able to significantly reduce its environmental footprint.

Interview by Giorgos Gkiouzepas for the city of Kavala



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# Meet the partners: interview with Tadej Žurman



Nigrad d.o.o. Maribor participates in the URGE project as the only industrial partner and with its practical insight has an important contribution to the network, which otherwise consists of city and regional administrations. By participating in the URBACT network Nigrad d.o.o. complements its other activities in other European projects, where they develop solutions for the processing of construction waste. Locally, Nigrad d.o.o. wants to contribute with its work to a deeper understanding of the circular economy and its promotion in

construction and thus upgrades the intensive work of the city of Maribor in the field of the circular economy.

An important partner in the field of circular economy activities for Nigrad is also Mr Tadej Žurman, who is also an ULG member. Mr. Žurman, otherwise a lawyer, is acting as project coordinator and has successfully prepared and participated in several EU-funded circular economy projects.

Thank you Tadej Žurman, for taking time for this interview. You have several years of experience in the field of circular economy in all areas of municipal operations to make it flexible enough that it could be implemented and adopted by every European city. What is the most important issue to bear in mind when preparing concepts of implementation of circular economy in a city?

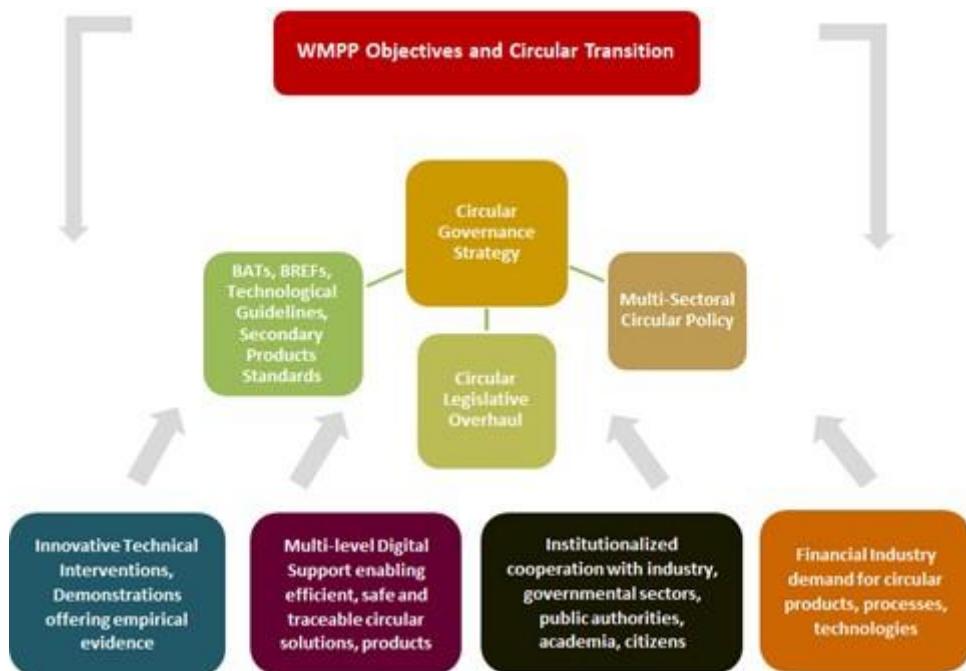
I think the most important and also most difficult is achieving changes in perceptions – in peoples' minds. That is the most difficult challenge that we are facing with every project we are implementing. There was a situation with a very big Spanish city, where a new mayor wanted to devalue the work of the previous administration, thus demanding the city exists all circular and other sustainability projects. Similarly, in Slovenia we are faced with the reemergence of grey infrastructure champions among local governments. This is the most demanding challenge to overcome. You would be surprised how many enthusiastic people with excellent, inspiring solutions you can find in the research sector and among the entrepreneurs, but bringing their stories to light, let alone helping them to succeed, it a constant struggle.

You are also involved in several EU projects in the field of circular economy in the construction sector. What are the challenges identified in this field? How can these be tackled?

Construction sector is in my opinion one of the most traditional sectors there is. It is, literally and figuratively, set in stone. Also, the perception of customers of services provided by the construction sector is very old fashioned and is usually a generationally “transmitted” attitude. Particularly in the post-socialist and Mediterranean countries, where virgin resources are

abundant and past experience of experimentation mostly negative, it is very difficult to convince investors to invest and companies to offer innovative products and services. In some Croatian cities, for example, the water supply networks built in Yugoslavia are inherently failing, whereas networks built in Roman era are still functioning very well after 2000+ years. Consequentially, this attitude is basically a floodgate for other non-feasibility factors hindering the full development of CE in construction industry, such as low prices of secondary materials due to their undesirability, lack of proper environmental and life-cycle assessment to include them in projects, tenders, plans etc.

Figure 1: Example of a circular transition model covering all aspects of change. Source: LIFE IP RESTART.



As mentioned, you are involved in several EU projects with a different focus on circular economy. How is it possible to transfer good practices and lessons learned at different projects between the projects and how could we more efficiently show the added value of (EU) collaboration and knowledge exchange?

Well, urban metabolisms at their very basic operational premise have to function very similarly – they provide more or less the same services for their citizens, which means that lessons learnt in one project or in one local could theoretically be transferred into another one, of course considering the specifics of local situations. The first intervention level of circular economy is undoubtedly municipal one, which is something that has been proven time and again also in our and other EU projects, meaning that transfer of knowledge and good practices should be quite simple if there is the preparedness of decision makers to implement them. Clearly, when dealing with cities, the “reverse economy of scale” principle is usually a very significant factor; it is very simple to implement changes in smaller cities, but when you are dealing with metropolises it is significantly more demanding. However, for some projects there is no sound reason why every city on earth wouldn't implement e.g. the Roman project “+Riccioli +Viaggi”, or systematically collect rainwater for usage on green areas, for cleaning of paved surfaces etc.

**When working on circular economy issues one also makes mistakes ... What are the most common mistakes you see (based on your experiences) and how they could be prevented? Or when they are done, how the problems can then be solved?**

I would say zealous naiveté that by implementing your solutions, which you consider is the best, you will be recognized as such, and you will "change the world". It usually works the other way around, the higher number of sound projects and solutions you bring to the table, the less desirable you are, since you are interfering in long established value chains, relationships, and perspectives. You become a disruptor. So, tactfully implementing circular solutions in order to achieve longevity of change, that is the most delicate art in the circular story. Also, in the last year I have gotten a nauseating feeling that circular economy has become a casually used term, parola, to achieve what you want by presenting yourself, your company, and your solution as circular. Particularly by the energy sector, since they mostly do not understand that renewable energy production and circular economy are not synonyms, and have basically nothing in common, but are complementary – CE can help with its solutions and principles to renewable energy sector to actually become circular, so we won't have to deal with graveyards of end-of-life solar panels across the world in 20 years, for example.

**Lots of the projects prepare different demos and pilots – how can then after the projects will end, be these demos and pilots implemented in regular activities of cities and their public-owned companies, as well as the private sector? Do you have any suggestions regarding that?**

If a solution is not economically feasible, it will not be upscaled and transferred into other environments. It may sound cruel, unjust, and dystopic, but it is that simple, and this is true also for services provided by municipal utility companies. Profit is the only game in town. Understanding that, in every project we are trying to include this aspect in each pilot, it is also something that the EC expects. But there are some areas, where the abundance of cheap natural resources without government-led or EU-led legislative demand-side measures makes it impossible to present an alternative circular solution that would be economically feasible at the same time. Recycled water is such a case. Reuse of treated water is being implemented only in areas, where water is scarce. Everywhere else the cost of extracting freshwater via a concession is so low that purchasing recycled water would mean a significant cost increase for the user. This can be solved only in two ways, by the climate crisis that will make the water scarce everywhere or by decision-makers that will change the pricing policy of extracting our resources.

**You are also an ULG member of our URGE project. What do you find useful in URGE project? How do you see the progress of the project this first year? What is your opinion of our activities regarding the action planning process?**

Already at the beginning I was very impressed by the joint pool of knowledge brought to the table by project partners. I think that unification of view established through different project action in this first year by people originating from vastly different environments is the biggest success of URGE until now, especially in such a demanding field. I consider the action planning itself very interesting and beneficial, since municipal partners have to write themselves what they want to do, meaning their perceptions are already changing or changed and that this contribution will be very difficult to negate in the future, since it has been co-created and elaborated by themselves.



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Thank you for your time and all the best for your future work!

Interview by Nuša Lazar, ULG coordinator for Nigrad d.o.o. Maribor



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# Meet the partners: interview with Jānis Ikaunieks



The city of Riga is happy to be a partner in the Action Planning Network (APN) URGE and to develop its first action plan for transition to a circular economy in the construction sector. The city (as all other cities) has a wide range of issues to address. How does this affect the overall sustainability planning process of the city and how does the project help to bring ambitions further? We asked these questions to Jānis Ikaunieks, Director of the Riga Energy Agency (REA), the holder of the Sustainable Energy and Climate Action

Plan of the City of Riga.

First of all, I would like to say thank you for taking the time to have this conversation! I know you have a lot of work to do, but you always find time to talk. It's often heard 'less talk more action'. You don't seem to agree with that, do you? How important do you think it is to talk about ideas on environmental sustainability issues? It depends on the actions taken. In the case of environmental sustainability, I completely disagree with this saying as sustainability issues mostly are connected with behavioural change. In raising general knowledge and changing people's behaviour, we need to talk, talk and once again talk about these issues. However, when we are talking about the implementation of measures or pilots, the saying is spot on – less talk, more action.

Lately, we hear a lot about the circular economy. Do you think people are ready to introduce a circular economy in their renovation and construction works? And how can we help them?

From my point of view, people do not have enough knowledge and do not consider that their renovation and construction works can be more sustainable. They may not even realize that they are actually harming the environment. However, I think that those who have heard about the circular economy or evaluate the whole life cycle of construction works are willing to introduce the principles. First of all, it is very important that architects have knowledge of the circular economy and can implement its principles in projects.

You participate in the action planning process in the frame of the URGE project. Which of the planned actions do you see as the most valuable?

My opinion is that there always needs to be a plan on how to achieve your goal. The plan consists of several steps and all of them are, from my point of view, equally valuable. However, one of the key factors in creating a sufficient action plan is a well-covered stakeholder group. I'm thankful to everyone participating in this process.

For the dissemination of circular economy principles, the construction material exchange point – our small-scale activity within URGE – is a success story. We are also very looking

forward to implementing three construction pilot projects based on the guidelines developed in the frame of this project.



You are leading the preparation of the new Sustainable Energy and Climate Action Plan (SECAP) for the City of Riga. The Development Programme for the city of Riga is about to be finished. Does circular construction play a role in these plans, and will action plan, developed in the frame of the URGE project, be in line with other planning documents?

We hope to complete the SECAP for the City of Riga by the end of this year. In the SECAP, we have expanded our system in terms of CO2 baseline inventory and general vision. For example, we will also include emissions from waste. As URGE's action plan is directly connected to the reduction of waste of the construction sector, this will reduce also baseline emissions and is being implemented as a SECAP action. Moreover, the SECAP promotes principles of climate neutrality and circular economy in the renovation and construction of new buildings, especially in the public sector.

Work on the Development Programme started earlier, but we managed to include there several actions from URGE's action plan. Meanwhile, Riga has stated clearly its direction towards sustainability and circularity. So, yes, I can surely say that the action plan by the project will be strongly linked with the city planning documents and strategies.

If and how does the URGE project help in your daily work? What kind of gains do you see from the integrated planning process and the project itself?

For me personally, the URGE project helps to look at things from a broader perspective and to take into account the whole life cycle of construction. The project has raised awareness and boosted the capacity of many departments and units of the municipality as well as of other stakeholders involved in the process. There is a lot of information provided by the project

which forms a base to start taking action. For residents of the city, the most visible and valuable element was the small-scale activity – the construction material exchange point. It gained a lot of interest from citizens and even companies. We are now seeking opportunities how to make it a permanent and develop it into a wider scale action.

There are two main benefits of the project: it opened a conversation with many stakeholders. As I mentioned before - it is crucial. And the second – we will have an action plan.

**What is the most interesting thing you have learnt in this project?**

For me, the most interesting was to learn that building materials can be leased! And that after dismantling of the temporary building, there was no damage of the materials, and that they can be reused again. At first, this seemed unimaginable. But actually, these are simple things, that can be told to people, both professionals and the general public - how to build and renovate wisely. That's the idea of the circular construction guidelines we are currently developing. Everyone deserves to know these things. That is how we all contribute to a circular economy.

Interview by Ieva Kalnina, ULG coordinator for Riga Energy Agency.



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# Meet the partners: interview with Harry Hofman



construction in Utrecht.

The City of Utrecht is one of the partners of the Action Planning Network URGE, in which it develops a new action plan to promote circularity in the building sector. Utrecht is the hometown of many frontrunners on the theme of circular construction, some of them have been active for over ten years. One of these frontrunners is GBN, a construction company that works on reuse of building materials and elements. We spoke to Harry Hofman - director for circular materials at GBN, about the past, present and future for circular

Thanks a lot for taking the time to do this interview! GBN is an important stakeholder for the city of Utrecht as you're very active on the field of (circular) reuse of materials, something that we hope to be much more common practice in the future. As one of Utrecht's frontrunners in circular construction, how do you see the evolution of circular economy in the building sector? What has changed in the last 5 years?

At the GBN group, we have been focusing explicitly on the subject of circularity for about ten years now. At that time we started our journey by focusing on upcycling of concrete. In the first years we noticed that it was difficult to develop this innovation further because of a lack of market demand. Five years ago we started with focusing on circular demolition and apart from application in a number of European (co-)funded projects, it was still hard to bring this further. Currently in 2021 we see a market that grows rapidly. We have established several new spin-offs: Mining Group that carries out circular demolitions, C2CA (Concrete to Cement & Aggregates) Technology that turns end-of-life concrete into new concrete, GBN-AGR that recycles artificial turf and GBN Ballastrecycling that cleans old train track ballast to make them fit for reuse. Concluding, in the past two to three years there has been an ever-growing activity within the field of circular economy. Circular economy is moving from a small niche theme to becoming mainstream.

This means that there is growing demand and supply. The role of governments is important in this sense as they realize that for the transition to a 50% circular economy by 2030 (after the 2016 national [programme 'Netherlands Circular in 2050'](#) ([link is external](#))) they need to create opportunities and space for a circular economy. 2030 is approaching very fast, thus meaning that we should move away from the pioneering stage to upscaling good solutions. We are now approaching that new stage.

As you know, the city of Utrecht is preparing a new action programme for circular construction (2023-2030) through its participation in URGE. How do you look at the city's progress on the theme of circular construction?

Already in 2018 we carried out a material inventory for the [Merwedekanaalzone](#)(link is external), an area in Utrecht that will transform from a former industrial area to a dense new housing district. At the Merwedekanaalzone, we made an inventory of how the various buildings and materials from that area could be reused. Currently and three years later we have accomplished the first circular demolitions of various buildings. For one building, a large part has been rebuilt elsewhere. The city of Utrecht itself plays an active role in these projects as a client. We see many more of these initiatives emerging in the city, also apart from projects where the city of Utrecht plays an active role. Circular hotspots are emerging throughout the city, with nice examples being the circular working location Hof van Cartesius and restaurant the Green House. The initiating and facilitating role of the city therefore has an effect.

We see that in the city we are moving from pioneering to upscaling: steps for this next phase are being made and we are getting more professional in the operations. The city is activating a group of stakeholders so to take these next steps together. At GBN, we support this process.



Circular demolition of the RotoSmeets & T buildings at Merwedekanaalzone, Utrecht

**What are your hopes and aspirations for circular construction in Utrecht for the upcoming years?**

It is my dream that circularity is integrated (circular unless, ..) in all projects to be tendered by the city of Utrecht. Technically speaking, this is already possible - in some cases it is possible soon if we kick-start this together. To realize this, it is necessary that the ecosystem of circular construction develops further: all players in the construction chain need to take in their role and embrace this development.

**Time for some advice! What do you think is the most important thing we should start doing today to improve circular construction tomorrow?**

Circularity can only be realized if all parties work together, learn from each other and ensure that a demand is raised. What I often notice in circular demolition projects is the belief that the market will solve the sales of reclaimed building elements itself: there is a demand for circular demolition but the client of new buildings will not use circular elements. Key here is: without demand there is no supply. All parties in the construction chain form the market for circularity and should thus take responsibility. My ambition for the coming years is therefore to realize professional collaboration together with all parties in the chain: client, contractor, contractor, demolition, supplier, etc.

**And what should we stop doing?**

Stop talking and start doing! By doing we will find out what is possible and what not. The city can play an additional role by (temporarily) creating space and possibilities in laws and regulations that hinder circularity.

**Apart from being one of the stakeholders as part of the URGE project, GBN also active in the European H2020 project ICEBERG in which you lead the work on case studies on circular building materials. What does the participation in these projects bring you?**

By participating in European H2020 projects such as ICEBERG, we can work on various innovations to make the most important residual flows in Europe circular. In the Netherlands, we have mostly focused on concrete rubble in the past years. Through collaborating with European partners, we share knowledge between various companies and knowledge institutions with the aim of developing new technology and new value cases. By applying new innovations in case studies, we validate them and draw up Life Cycle Analyses and Life Cycle Cost calculations to test the environmental impact. We can also test whether the new technology is economically competitive. Thanks to these European projects, we stand now where we are today in terms of developing the of C2CA technology. We are now ready to upscale this innovative technology and our services.

**More and more inspiring cases of circular construction are starting to appear. What do you think is needed to bring these good, but often singular projects, a step further?**

We need to connect projects to each other: by working together will realize a whole greater than the sums of its parts. We need to do this not by talking but by taking up the challenge



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together. The city of Utrecht can play a key role through facilitation: by asking the right questions and, where necessary, developing pilots on new themes with market parties.

**Thanks a lot for your sharing your insights!**

Interview by Merel Limbeek, assistant project coordinator for the city of Utrecht



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# Meet the partners: interview with Sebastian Knoll



The city of Munich works on the city's first circular district, transforming the former military base 'Bayernkaserne' to a new urban district housing around 15,000 people. Making smart use of locally available materials is an important goal in the project. Sebastian Knoll, being an engineering ecologist, supports the ULG in Munich regarding the re- and upcycling of excavated soil and secondary raw materials as rooting layers. At the Technical University of Munich he is currently researching the possible re-use of brick material as plant substrates.

**Mr. Knoll, how do you see your involvement in the ULG?**

In recent years I have been consulting within both the private and public sector regarding rather practical approaches concerning the upcycling of excavated soil as well as secondary raw materials as soil additives. This comprises adaptive measures for the compliance with technical regulations, fertilizer ordinance and soil conservation legislation. The primary objective has been the sustainable production of tree and roof substrates, turf-bearing layers, improved topsoil etcetera. These experiences I try to contribute to the ULG Munich.

**Don't you think that there are considerable gaps in research hindering the utilization of recycled material?**

Yes and no. Talking about soil and soil additives, it would be naive to assume that there are no justified doubts concerning the suitability of recycled materials, be they on the basis of environmental or technical perspective. Utmost safety must be guaranteed for people and environment. With the Bayernkaserne pilot project Munich our ULG was given the opportunity to set a huge cornerstone for future building projects, inter alia, by applied research.

On the other hand, I frequently experience that even public project developers argue against the application of recycled materials despite a solid data situation. Just like the German saying says: 'What the farmer doesn't know, he doesn't eat'. However, I see an increasing interest in sustainable solutions. Especially in professions with an already green attitude by tradition – such as landscaping, for example.



### In your opinion, what are the driving factors for an environmentally friendly shift in the building sector?

In my field of work, which is landscaping, there already is a huge will for recycling soil and secondary raw materials. Talking about public works, this predominantly seems to be driven by economic calculations on the part of contractors rather than environmental idealism of course. On the other hand, primary raw materials often still have a price advantage. Munich, for example, is built on massive gravel deposits from the last glacial periods. The city's surroundings offer vast supplies of natural sand. So why take the trouble of using secondary materials for road or building construction when the usage of natural resources is more economic and convenient?

If preservation of natural resources is the goal, policy is asked to give economic value to recycled materials via procurement rules. One possible way could be the preference of recycled materials having the same technical suitability as natural resources. Another the implementation of a binding recycling rate for public procurement. Take Berlin for example where the senate considers the compulsory use of 100 % recycled material for roof greening of public buildings. Roof substrates often consist of lava rocks with high porosity. This lava rocks have to come from distant sources although they could be replaced by processed brick material from local sources easily. But utilization of such secondary raw material requires legal certainty which the municipality must provide in the first place.

# Meet the partners: Interview with Janus Christoffersen



URGE partner the city of Copenhagen holds high ambitions with regards to climate neutrality. Linked to the EU transition goals and the National Energy and Climate Plan, the City of Copenhagen aims to be the world's first carbon-neutral capital city by 2025 lead by The CPH 2025 Climate Plan [The CPH 2025 Climate Plan | Urban development \(kk.dk\)\(link is external\)](#) and Circular Copenhagen – Resource and Waste Management Plan 2019-2024 [Circular Copenhagen - Resource and Waste Management Plan 2024 2019 \(itera.dk\)\(link is external\)](#).

These plans, strategies, legislations and policies impact the scope of Circular Economy (CE) in the building sector and will be presented throughout the report to elucidate opportunities and barriers to the CE transition efforts of the Building Renewal Unit and the City of Copenhagen.

The Building Renewal Unit is part of the Technical and Environmental Administration in the City of Copenhagen and supports renovations in the existing built environment of the city. Furthermore, the Building Renewal Unit includes a Climate Group and a CE Group working to develop and carry out projects within CE and renewable energy with the aim of promoting and strengthening knowledge about and approaches to reducing resource use and CO2-emissions in the City of Copenhagen.

**Janus, you are newly appointed head of Copenhagen Integrated Urban Renewal. From your point of view, why is participating in URGE so important?**

I come with a backpack full of international experience, and in my former positions here in the City I have been engaged in the green and just transition for a number of years. So, to me it is quite obvious, that the only way we can save the planet and secure our children's future is through strong collaborations – locally and internationally. And circular economy is really at the core of our unit. We rather refurbish and use long lasting solutions, than tear down buildings or use cheap and environmental harmful materials.

**It seems like you have a lot of experiences with the circular economy already. Where do you see the challenges for Copenhagen?**

A lot of the knowledge about recirculation of materials are still either unknown or poorly documented. Let me give some examples: out of the 5 million tonnes waste from the building sector (equivalent to about 40% of the total amount of waste in Denmark), it is not determined how many of the resources are directly reused. This is because direct reuse is not covered by the Danish national waste statistics. The statistics do, however, show that more

than 50% of the waste from the building sector goes through a recovery process where it is used as e.g. road filling. Statistics also show that only 33% of the waste from the building sector is recycled.

Another issue concerning knowledge also addresses the environmental impact of recycling: In order for used building materials to be reused or recycled, they must be tested for environmentally harmful chemicals. In a Danish context, this is particularly the case for buildings and renovations from 1950-1986 which contain chemicals such as PCB, asbestos, lead based paints etc. which, on the basis of environmental screenings, must be removed before a demolition or renovation (VCØB, 2022). Likewise, reuse and recycling of used components demands information regarding the components' technical properties and durability.



The URGE Network visit the Future Courtyard in Copenhagen

**These were two examples from a knowledge point of view. But how about the market and the construction sector? Are they up for the challenge?**

Well, there is a great interest and will, but it is well known, that Construction as an industry is characterized by difficult and complex innovation challenges, which are linked to the nature of a construction project: projects are often individual and separate, transfer of knowledge from project to project is difficult, there is a long distance between those who build, use, and operate buildings, etc. At the same time, the individual construction project is understood as a linear process that is optimized in relation to time and economy. Furthermore, actors within the building sector work in silos with clear professional boundaries and areas of responsibility to address the complexity of construction projects.

The market for secondary materials and products is characterized by a lack of infrastructure in the form of warehouses where materials can be made available, and standards and certification of the recycled materials, which enables the clarification of responsibilities for construction. Warehouses and storage sites are crucial by enabling the delivery of materials

for new projects, and by making it possible to handle materials that cannot be used in the present project, but instead be handed over to actors who can ensure that the materials are used in projects outside the municipal body.

**So, even for Copenhagen there is still a long way home. Could you elaborate a little bit on the steppingstones, you are paving the road towards circular economy with?**

I don't think there is a quick fix or a single tool to tackle the complexity of the challenges. Therefor we are exploring different approaches that can contribute to the solutions. We must engage the different actors, communities and the citizens. With the **Encubator**, we focus on supporting the development of SMEs that address specific circular possibilities of building and construction materials.



Young entrepreneurs develop their business plan, facilitated by members of the URGE Team

The regional market and industry are engaged through **The Circular Material Depeche**, that aims to increase the recycling of building materials and components by developing an integrated tool and system to ease the identification and dissemination of valuable materials from one purpose to another. This is by the way cofounded by LIFE, another great EU program that we can recommend other cities to apply.

It is at the same time quite important not only centring the efforts on the requirements that can be made regarding circularity, but effort also needs to be directed towards the municipality as a facilitator for demonstrations and innovative projects that can provide new

solutions for circulating building-parts and materials. In this regard, the most important objective is to support the involved stakeholders, and thus to create better opportunities for carrying out construction projects that align with the goals of establishing circular practices. To do this, the Building Renewal Unit is planning to implement a process-tool to help ensure circular outcomes in the renovation-projects it supports.

**By taking these initiatives, you are taking on a lot of responsibilities. In your opinion what are the key role?**

I think it is important to recognize, that the transition towards circular construction in the municipality of Copenhagen is a process that have to take place at the system level, while being a result of many smaller sub-contributions at project level. Our role as an administration is to support the key individual projects that play a special role in relation to developing understanding and synergies across the construction actors.

**You really have a lot going on! Could you, here at the end in a few words describe your goals for URGE in Copenhagen?**

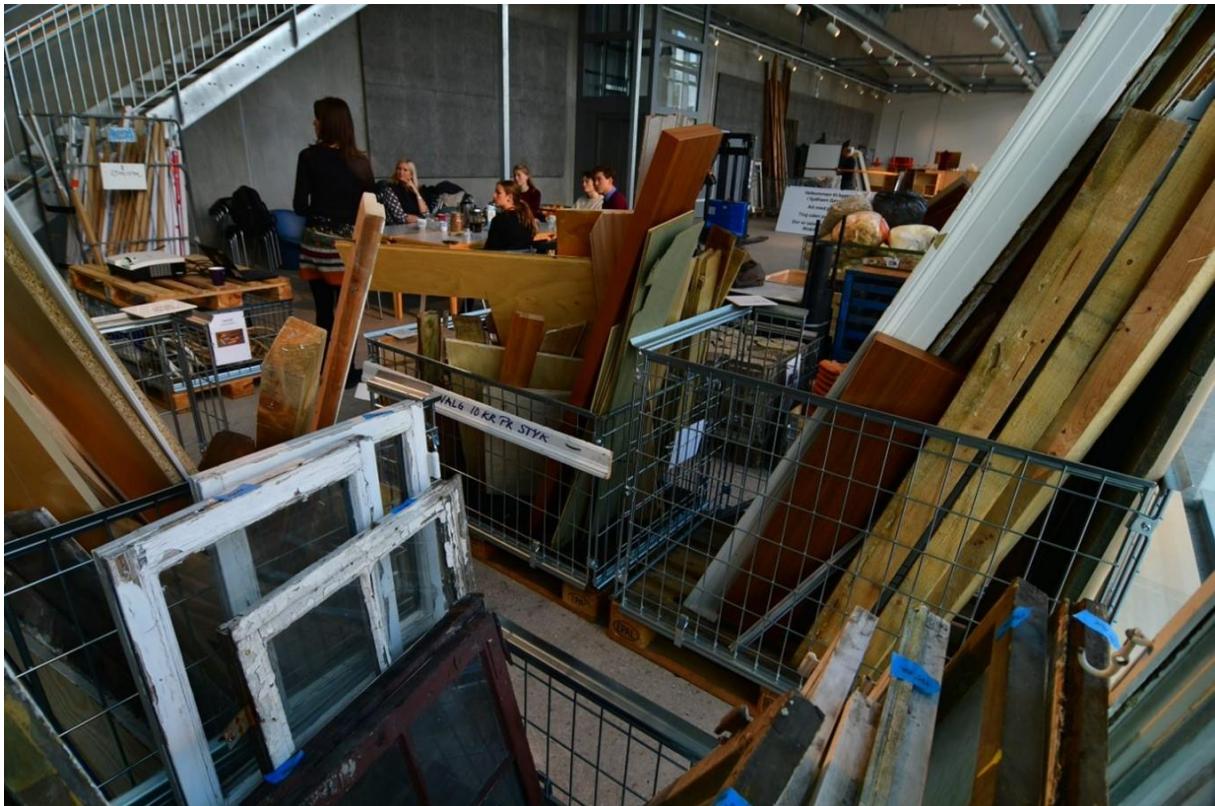
For us, URGE has been a huge inspiration and motivator to develop our own action plan, and by participating, the Building Renewal Unit in the City of Copenhagen aims to:

- Accelerate the efforts for circular economy in the construction sector limited to dwellings in the city through knowledge and inspiration sharing including concrete action tools
- Translate national politics, visions and strategies concerning circular economy into related local actions
- Develop solutions and knowledge that can be adapted into the administrative core tasks of the Building Renewal Unit in the City of Copenhagen
- Build up a local network of stakeholders based on the transition towards circular economy as a concerted action

**Thank you for your time and thank you for sharing your thoughts and insights.**



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Workshop in South Harbour Recycle Center with local and international partners

Interview by Øystein Leonardsen, Program Director for Green Transition, Ida Nordborg, ULG Coordinator and Rikke Veber, Project Manager for the city of Copenhagen.

# Meet the partners: Interview with Maria Rita Cecchini



construction.

The city of Prato is one of the partners of the Action Planning Network URGE, in which it develops a new action plan to promote circularity in the building sector. For its delivery, Prato works closely together stakeholder Legambiente , an Italian foundation for environmental conservation. Head of the Commision for the Circular Economy at Legambiente Toscana ánd Member of the National Assembly of Delegates of Legambiente is Maria Rita Cecchini. Having a background in architecture, Maria Rita shares Legambiente's vision on circular

In general, what does the construction sector need in order to incorporate and implement the logic of circularity?

The building sector needs a cultural evolution based on recycling, reuse and simplification, but the economic drive is the key factor behind this change. In my opinion, the crisis we are facing will facilitate the transition, by accelerating the circular transformation of building processes towards alternative solutions in terms of raw materials and energy.

In your opinion, what are the obstacles and difficulties that an architect from Prato faces today when designing a new building?

Well, it would find common difficulties to other cities, but it would have an advantage in terms of attitude: the culture of material recycling is an integral part of the skills developed in this city. When I was working at Superstudio, at the beginning of my professional career, I was working with a Prato industrialist who designed insulation materials to be used in the building industry from textile waste. Considering the historical context, he was a visionary, but he expressed a sense of creativity and concreteness that is crucial today. We should not forget the driving force of innovation.

However, when designing a circular building, there needs to be a great understanding of materials and their potential, especially in terms of their life cycle. An enlightened client on one hand and a visionary designer on the other are the key factors of every successful product. I always make the example of the Casa Clima Agency, which deals with building certification related to energy labelling, organizes trainings for technicians, construction companies and above all for the clients. That's just incredible to me! An informed and aware client can make the difference!

What do you think about the Integrated Action Plan we are elaborating?

I think it is correct because it addresses several key issues to the circular transition. A roadmap was needed! In the meantime, I think it is very important to work on training so that we reach as many stakeholders as possible.

As a representative of Legambiente, I gave a lecture in a high school entitled "When you don't need you anymore, I break you down". I talked to the students about the potential of selective demolition, as the benefits of circular construction will fall primarily on the next generation. It would be important to introduce in all the schools specific topics related to a new way of building (and then demolishing). These are the new languages to be learned! Environmental education is a pillar of the new education system.

The next step is to identify and define barriers in order to remove them. I do not say anything original! Knowledge is the basis for effective action. In my opinion, the first barrier relates to public and private works construction sites, where specifications represent the main obstacle for recycled aggregates. The second barrier is the lack of clear references and obligations for the use of recycled materials in public works construction sites. The third barrier relates to the difficulties in applying new materials from the recycling chain.

Finally, I believe that the collection of qualitative/quantitative data on C&D waste in Prato is fundamental to exercise circularity in construction in this field as well. What kind of material do we have available, what are the characteristics in order to "cook with the ingredients we have"... like in Ribollita soup recipe! The last item is very important; creating a framework agreement with the Region is strategic for the project development. In addition, the Region often has funds available without knowing how to spend them, due to a lack of knowledge of local needs. A good synergy between the administrative levels makes it possible to overcome this additional obstacle.

**Concerning the URGE project, what can we learn from the other partners? What best practices are you able to share?**

Looking at the projects of other European countries, I get the feeling that everything is flowing. In Italy, everything is slower and cumbersome because of an excessive bureaucracy.

**Does Legambiente play an important role in the discussion on ecological transition and circular economy at Italian level? What contribution can it make to the city?**

Legambiente addresses this issue in its environmental declination, trying to provide different points of view. In November 2016, as Recycle Observatory we published a report with 100 best practises of green materials and experiences in the building sector. The analysis aimed to highlight the key contribution the construction sector can make to the circular economy revolution.

In Italy, there are about 2,500 aggregate quarries (more than 4,700) and at least 14,000 abandoned ones. Of these, more than half are former sand and gravel quarries. Changing direction, creating research, innovation and new jobs in this new sector of the green economy, is a benefit for Italian business system. Since last year, we have also been publishing a Quarry Report, in which we carefully describe how the sector is developing, closely linked to the theme of circular economy.



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Figure 1: A few examples from the report on 100 best practices

This is the activity of Legambiente: it investigates processes, numbers, and tries to communicate providing new perspectives and visions.

We provided the city with insights and support for the selective demolition of the old hospital, despite a part of the citizenry disagreed. In 2013, I gave an interview to the local newspaper "Il Tirreno" in which I suggested the selective demolition for the old hospital, bringing as example experiences of IRCOW European project.

Our mission in the circular transition: stimulate thoughts, giving voice to success stories; create "synapses" between the various parts of the "social body" so that things happen. Finally, a lot of environmental education.

### How do you imagine the city of Prato in 10 years, what kind of change do you expect?

This is the hardest question to answer. I cannot distinguish between imagination and desire. I hope in a city where innovation is the social "engine".

I was not born in Prato, I have lived here for more than twenty years and I would not want to live in a different city. Because the city has this soul, hardworking and curious, and at the same time pragmatic. Things happen sooner or later! I would say: a city that follows its own flow while maintaining its identity, without destroying. A city with a high quality of life and the well-being belongs to all!

Interview by Daniela Tacconi, local project coordinator for the city of Prato