

# C2C inspired region: City of Venlo

## ABSTRACT

As first region in the world, Venlo fully embraced Cradle to Cradle (C2C) as strategy for innovation and economic growth. Venlo considers C2C as an innovative economic concept, based on new business models and the (re)use of materials continuously. Valuable resources are not lost. The Venlo region is an innovative testing ground where business, education and government work together to excel and innovate. This case study describes the developments that took place since Venlo embraced the philosophy of Braungart and McDonough in 2006.

**VENLO EMBRACED CRADLE TO CRADLE AS FIRST REGION IN THE WORLD AS INNOVATIVE ECONOMIC PRINCIPLE.**

### Starting Points

- City in south of The Netherlands
- approximately 100.000 inhabitants
- Surface: 27,14 km<sup>2</sup>
- 2013-2015: Best inner city of the Netherlands
- Logistic hot-spot of the Netherlands
- Cradle to Cradle Frontrunner award
- Greenport



The Innovatoren (Innovation Tower) in Venlo

## Overview of the region Venlo

Venlo is a city in southeastern Netherlands, with a population around 100.000 inhabitants. The city is located in green surroundings in Northern Limburg, next to the German border. Venlo is a hub of major highways and seen as logistic hotspot of the Netherlands. Also awarded as best inner city 2013-2015 in the category medium size cities. Venlo is the center of knowledge-intensive and manufacturing industries, agro & food and logistics. It's both urban and rural at the same time.



## Background: the necessity

Expectations for the demographic development show a decline in population in the south of the Netherlands. In the absence of new initiatives there could also be a decline in the Venlo region. However the ambitions of the City of Venlo do not accept this possibility.

Therefore, Venlo is going for strengthening the economic structure. To achieve this, the city is embedding a range of strategies aimed at transforming the predicted population decline into structural growth. The bid for leadership in the implementation of Cradle to Cradle is regarded as an important strategy to achieve the desired growth in combination with a clear and positive positioning to encourage companies to invest in Venlo.



The structural emphasis, that has been placed since 2007 on the added value of applying the Cradle to Cradle principles, can be summarized in four aspects for the region of Venlo:

- Achieving economic growth;
- Increasing the average educational level of the (working) population;
- Increasing innovative strength;
- Attracting investment to the region.

## AN EVOLUTIONALRY PROCESS

On a Monday evening in October 2006, the documentary 'Waste Equals Food' was broadcasted on the Dutch television. The Cradle to Cradle approach was broadly introduced by this documentary in the Netherlands.

Since the introduction, Cradle to Cradle is seen as an important stepping stone to turn the earlier mentioned challenges and threats of Venlo into positive growth. The pieces of the strategic puzzle began to fall into place with the C2C approach. Innovation that goes beyond conventional sustainability: Cradle to Cradle.

The day after the documentary, both co-founders Michael Braungart and William McDonough were contacted by Venlo. The question to them was simple but far-reaching, how can Venlo apply the principles of Cradle to Cradle on a regional scale?

In a co-creation process, the Venlo Principles were developed with both co-founders of C2C and stakeholders from the region Venlo. The Venlo Principles are context specific for this region and meant to focus on doing good rather than less bad.

The established mission is to utilize the Cradle to Cradle framework as an engine for innovation. To support the implementation of Cradle to Cradle, the following principles are defined:

### **Innovate, Innovate, Innovate**

We see the district of Venlo as a pilot project in which experimentation leads to the development of a new order comprised of man, the economy and ecology, side by side and hand in hand. Our focus is on developing and sharing knowledge, creating economic innovations, stimulating free spirit and cultivating new paths.

### **Link location and context**

In order to link the city and the district, we secure the authentic values in our identity and anchor our past in the future. Located on the Muese and sleeping in her bed, we take our cue from her unstoppable strength. We are proud of our identity, celebrate our future with passion, and work energetically to realise the future that we envision.

### **Manage and appreciate food**

We use and process our raw materials in such a way that they are never wasted. We produce in perpetual cycles.

### **Enjoy mobility**

We design and develop mobility systems that contribute to our economic, ecologic and social well-being – to realise access for everyone.

### **Let the sun shine**

We enjoy being creative, and just like nature, we use the sun as a perpetual source of energy and inspiration.

### **Create clean air, water and soil**

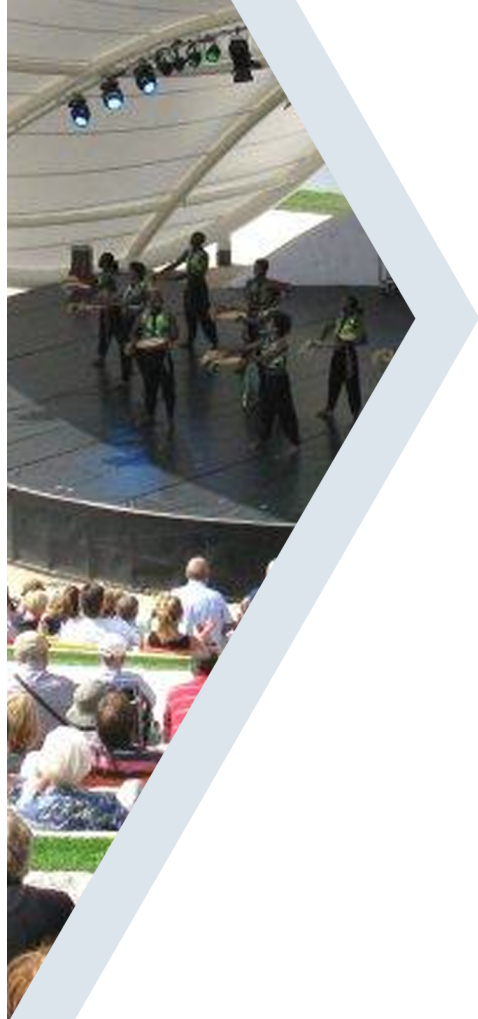
We design systems focused on purifying and maintaining our living environment.

### **Design with future generations in mind**

We will not burden our children and grandchildren with responsibility for maintaining or monitoring thoughtlessly designed objects or processes. Our designs have their enjoyment in mind and give colour to their future.



The Venlo Principles, inspired by Cradle to Cradle



Subsequently, the City Council drew up an ambition and the associated implementation program entitled: 'Venlo and Cradle to Cradle, an ambitious journey of discovery'. Next to this, City Council has tasked the city's Executive Board to take a leading role and to clearly demonstrate its ambitions in the region. The coalition government's program also gives a lot of attention to Cradle to Cradle – for example by indicating that the Cradle to Cradle philosophy serves as a source of inspiration and as a basic principle for supporting industry in investing in sustainable innovations.

The strategic vision and application of Cradle to Cradle in Venlo can be subdivided in four fields:

- Companies: An Cradle to Cradle Community among companies is set up;
- Built environment: Different C2C inspired buildings and area developments;
- Education: All educational institutes in Venlo have embraced C2C, and Venlo sponsors the Cradle to Cradle design chair at the University of Twente with Michael Braungart as professor;
- Policy: C2C is anchored in policy of the (local) government.

## HOW IT EVOLVED

In 2010, Venlo decided to found the C2C ExpoLAB to bridge the gap between philosophy and practical application. The C2C ExpoLAB is the unique knowledge carrier, specialist, certified and practical applier of the principle of C2C in the built environment and (governmental) processes.

C2C ExpoLAB helps clients and contractors, for example in policymaking or procurements of (re)construction of buildings, with an innovative, easy and sustainable way to save and earn money with the applying principles of the circular economy and Cradle to Cradle. These projects eventually contribute to a better world for yourself and our children and grandchildren.

Venlo, C2C ExpoLAB and involved parties strengthened, rather than hampered each other, by working closely together in applying C2C into practice. In next paragraphs different developments within the aforementioned fields will be described.

### Built environment

Venlo decided, in 2007, to build a new city hall as a state-of-the-art example of Cradle to Cradle design for its residents and business. It will be a pleasant and healthy workplace for its employees built to be highest possible application level of Cradle to Cradle. It consist of a three storey parking garage and a total floor space of 13,500m<sup>2</sup>. The total investment is estimated to be 46 million euro.

The Venlo city hall project is a perfect example of how a well-executed Cradle to Cradle approach can also make a significant positive difference to the financial bottom line. Over the time period of 40 years, the Venlo municipality will have realized a return on investment of around 17 million euro.

Venlo city hall is not the only project in the region that is inspired by the Cradle to Cradle philosophy. Other C2C inspired building projects are a sport centre (2 gyms and canteen), a primary school (2.050m<sup>2</sup>) and a housing project (approximately 55 houses). In addition, area developments such as the Floriade2012 (world horticultural expo), rehabilitation of an old Barrack site (22 ha) and Greenport Venlo (5.400 ha) are designed in line with the principles of a 'performance economy'.

### Education

As sustainable innovations rapidly becomes a key priority for projects, businesses and institutions worldwide, so does the need for job candidates with a strong knowledge of sustainability and responsible innovation. Inspiring a next generation of innovators and thought leaders, Venlo and C2C ExpoLAB works with forward-thinking school, colleges and universities to integrate the principles of 'system thinking' and Cradle to Cradle into their management programs and environments.

All educational institutes in Venlo jointly identified three Cradle to Cradle objectives for further development in the upcoming years:

- 1) Cooperation with C2C frontrunners and businesses: C2C as a link between (potential) employers and prospective employees;
- 2) C2C in curriculum: so that pupils and students know and understand the principles of C2C and, where possible, are able to apply the principles;
- 3) C2C in the organization and buildings: applying C2C principles in the learning and working environment of the educational institutions.

To encourage highly educated individuals in Cradle to Cradle design, Venlo and C2C ExpoLAB sponsor the Cradle to Cradle design chair of learning at the University Twente. World's first C2C master's program in order to integrate the principles into (university) curricula. Prof. Dr. Michael Braungart chairs the program.

### Companies

The region Venlo counts different companies that invested in Cradle to Cradle, and now distinguish within their markets. Examples are Van Houtum Paper (hygienic paper), Herman Miller Ergonomics (interior design), Jalema (archiving systems), AGMI (signage), Staco (gratings) and Steinzeug Keramo (vitrified clay pipes).

Beside the C2C ExpoLAB, also the Cradle to Cradle Product Innovation Institute is located in Venlo with their European office.

An increasing number of (inter)national companies recognize Venlo as a mayor hub to let grow their business.

### Policy

In recent years, approximately 50 employees of the municipality Venlo participated in a Cradle to Cradle training. As a result, the principles of Cradle to Cradle are now translated into building projects and policy documents. Some policy documents in which Cradle to Cradle plays an important role are the strategic vision 2030, procurement policy, raw material policy, spatial planning and building regulation. Cradle to Cradle is also part of the portfolio of Venlo's alderman.

## THE RESULTS

According to Venlo's ambitions, the region should be seen as international C2C-Valley of the world. In past years, significant steps in this direction are already taken:

- A regional business community that innovates with C2C;
- In the region of Limburg / Southeast Brabant are now around 100 C2C-certified products and materials produced and marketed. These companies show that these new concepts are cost-efficient and profitable and lead to excellent market position.
- Building projects shows the credibility of C2C. The municipal office, primary school the southern stream and sport complex Egerbos are fine examples of this;
- The establishment of the C2C Product Innovation Institute in Venlo;
- Local education embraced C2C as an innovative concept that makes students ready for businesses;
- The centrality of C2C in municipal plans. For example in the Spatial Structural Planning, purchasing and procurement policies. Other parties are thus challenged to think with bringing the C2C in practice.
- The creation of the C2C ExpoLAB that assist governments, architects, developers and educational on the application of C2C. Inspire each other and work on common innovations are important principles;
- The C2C Centre, an international knowledge and documentation platform, which is established and managed by the C2C ExpoLAB.

On November 15th 2014 in New York, Mayor Antoin Scholten received a frontrunner award from the Cradle to Cradle Innovation Institute, in the presence of Mayor Bloomberg of New York. The award was received by Venlo because of the commitment in the areas of Cradle to Cradle.





## LESSONS LEARNED

In line with Venlo's strategic vision 2030, the municipality wants to encourage other (local) governments, businesses and organizations to start innovating according to the principles of Cradle to Cradle and circular economy. Therefore, Venlo wants to share the gained knowledge and experience based on open-innovation. Some key lessons learned in journey of Venlo are:

- Make a baseline and determine how Cradle to Cradle can contribute to these challenges;
- Show the benefits of a circular model and commit the municipal organization;
- Embed Cradle to Cradle in policy decision-making processes;
- Inspire and train employees, encourage them to innovate and think out-of-the-box;
- Apply the Cradle to Cradle principles in your own organisation, e.g. in purchase;
- Engage projects to apply the principles within the scope of the assignment and inspire project teams with the benefits;
- Discusses the benefits with decision-makers and make clear what the consequences are if you don't apply the principles of a circular model;
- Involve businesses, education and other relevant organizations;
- Communicate about the results and ambitions;
- Explain the differences with the conventional approach of sustainability;
- Believe in open-innovation, share your knowledge and experiences.

**Please visit the C2C-Centre website for more experiences and knowledge,  
[www.c2c-centre.com](http://www.c2c-centre.com)**