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# Designing Sustainability for All

Qiu Dengke, Guangzhou Low Carbon Industry Association, Guangzhou, China (email: qdengke@outlook.com)  
Peng Jinqi, Guangdong College of Industry and Commerce, Guangzhou, China  
David Bramston, Lincoln School of Design, University of Lincoln UK  
Qiu Zhiyun, The Georgia Institute of Technology, USA  
Chen Danrong, Guangdong College of Industry and Commerce, Guangzhou, China

## UPCYCLING IN COMMUNITIES: LOW CARBON DESIGN PROMOTES PUBLIC ENVIRONMENTAL AWARENESS AND OPTIMIZES SOCIAL

### Abstract

This article concludes the Upcycling activities in China in a range of locations including cities such as Shanghai, Guangzhou, Changsha and in the Chinese countryside, as well as activities in Lincoln, UK from 2014. The communities that joined in the Upcycling activities were traditional urban communities, new industrial communities and rural communities at the junction of urban and rural areas. The design and organization of the activities in the project is based on the characteristics of communities, utilizing various themes, scale of project and presentation. This specific article analyzes the effect from the eight years of practice and considers how these low carbon design activities, represented by Upcycling, have improved the environmental awareness of

### Keywords

Upcycling, Low Carbon Design, Public Environmental Awareness, Social Governance

### 1 Preface

#### 1.1 Background

In 2011 the Guangzhou Low Carbon Industry Association connected with their member companies that specialize in the industrial leftover recycling business. The association created the opportunity to utilize industrial waste as a raw material for a design competition. The research group organized for over 20 designers to visit and discover materials

As a design activity coupling environmental protection with a low carbon approach, Upcycling undoubtedly has social and educational significance especially when the public are so intrinsically connected. Since the initiation of the activities in 2012, the Upcycling project team has placed great emphasis on the societal relationships and in particular the interaction with different communities. The interaction has embraced various forms, such as exhibitions, forums and creative workshops. This Upcycling practice, during a period of 8 years, has evolved from being a professional design activity into a burgeoning, socialized public welfare activity. The design activities have not necessarily involved everyone in a community but the outcomes impact on everyone. It is important to recognize that the various Upcycling activities have been constructive in solving various social problems, including social aging and environmental education within the community. In this article, the interaction of Upcycling and communities will be classified by category, analyzed and summarized, in order to discover a regular pattern.

#### 1.2 Organization

Supported by The British Council, the research group collaborated with DESIS-CHINA, which includes Tsinghua University, Tongji University, Jiangnan University, Hunan University, Guangzhou Academy of Fine Arts and Hong Kong Polytechnic University, and other design institutions from the UK. All the academic institutions were invited to appoint teachers and students to come to the competition held in one of the colleges in DESIS-CHINA. The first competition in 2012 was held at the Guangzhou Academy of Fine Arts.

### 2 General Situations

#### 2.1 Exhibition

Since the project began in 2012, Upcycling exhibitions have been staged after the activity as a form of understanding comprehension, but there have also been public exhibitions where the theme is associated to low carbon practice, in various institutions. Table 1 below shows the details (in chronological order).

[Table 1] The public exhibition that Upcycling had join in past (Only include exhibitions that over 30,000 visitors)

NO.	Time	Location	Name of Exhibition	Visitors (person time)
1	2012.12	GUANGZHOU	(i)MART	30000
2	201305	QINGDAO	DESIGN WEEK	60000
3	201404	YANGZHOU	DESIGN WEEK	45000
4	2015.10	BEIJING	DESIGN WEEK	120000
5	201606	WUXI	INDUSTEY EXPO	80000
6	201706	GUANGZHOU	HAIZHU ART EXPO	65000

Our team also pays attention to the effect of the presentations. According to the various surveys outlined below, the public show a huge interest and demonstrate high participation to the Upcycling activity. The public were also prepared to pay a reasonable price for the designed works.

#### Feedback Reports from 128,000 Visitors

Age Distribution: Young people are the main visitors. The proportion of 17-28 years old is over 80%.

Gender: Women showed more interest in UPCYCLING, accounting for 62.5%

Occupation: Students and designers are the main audience of the exhibition; the total share is close to 90%.

The overwhelming majority (>77%) of visitors have carried out UPCYCLING at home, which suggests that the audience has a strong interest in UPCYCLING. Almost all those that attended have increased their interest in UPCYCLING because of their visits. It appears that if the conditions are right, most people are willing to try UPCYCLING. More than 70% of visitors are willing to pay for the event. Nearly 60% of the participants said they would decide whether to buy UPCYCLING products based on the cost-effectiveness ratio.

Some of pictures from the exhibitions are below.



[Figure 1] iMART (2012, Guangzhou)



[Figure 2] International Design Week (2013, Qingdao)

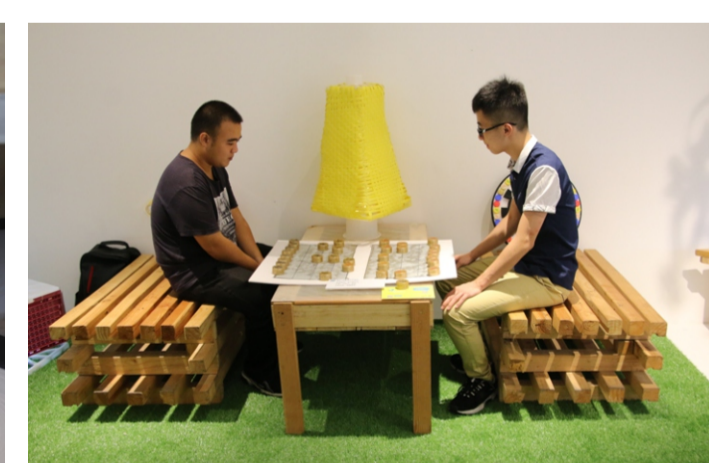
[Figure 1] According to the survey, young visitors between 17 to 28 years old are more interested in Upcycled designs than any other age group. They would carefully study the material, design and create the work.

[Figure 2] Designs that were generally larger in size were typically harder to produce.

Usually visitors had a preference to simply appreciate the work rather than interact despite having an interest in it.



[Figure 3] Yangzhou International Design Exhibition (2014, Yangzhou)



[Figure 4] Guangzhou Haizhu Art and Design Exhibition (2017, Guangzhou)

[Figure 3] Most of the visitors, as part of the comprehension process, still required some element of explanation from a professional designer to understand the design principle and thinking behind the work.

[Figure 4] Our project team encouraged visitors to actually interact with and enjoy the design outcomes.

#### 2.2 Workshop

Since the project began in 2012, Upcycling has not only held professional workshops with Design Colleges, but has also held workshops that engage the public. Those workshops attracted a range of participants including urban community residents, rural residents, factory workers and ordinary citizens.

[Table 2] List of public workshops in Upcycling project

NO.	Time	Location	Title	Participants
1	201408	SHANGHAI	MEMORY	66
2	201502	SHANGHAI	LIGHT	138
3	201604	GUANGZHOU	JELLY FASHION	336
4	201612	GUANGZHOU	WASTE TO WAIST	128
5	201606	LINCOLN(UK)	STREET FASHION	172
6	201706	GUANGZHOU	FURNITURE	266

The first public workshop held in 2014, was conducted in Shanghai. This professional workshop, which was held at Tongji University, had the theme of "design for community" and therefore ensured that many designers considered the community's low carbon needs. The workshop utilized a lot of waste materials in the creation of the designs. Findings show that there is a large amount of waste that stays within the housing of community residents and this can encourage provide

the imagination toward Upcycling project solutions. At the same time our project team realized that urban communities have an urgent need for low carbon design that could contribute to solving environmental problems

but also provide stimulation and encourage creativity in their free time. More importantly these activities could help a community and the general public further understand the concept of Upcycling waste and ultimately enhance the awareness of environmental protection.

The approach and subsequent success in working with the Shanghai community was applied in communities in Guangzhou. The team organized a couple of creative Upcycling workshops with different themes. These were conducted within a factory and also a countryside environment and both received positive outcomes and feedback. At the same time, the team experimented with the project overseas and conducted a workshop, aimed at bringing a diverse community together in the UK. The project was trailed in Lincoln (UK) and again many local residents, with very mixed backgrounds, got involved. There was a positive response to our project which has led to further UK based workshops.



[Figure 5] Memory (2014, Shanghai)

In the Memory design workshop conducted in Shanghai (2014) the main participants were community residents that had retired from mainstream employment within the last 10 years. The theme was "Memory" and the intended aim was to let participants use waste to design their own works associated to their specific areas of interest. The retired ship captain (fig 5) made outcomes using worn-out electronic components and was able to exploit the beautiful colors found in such pieces that are so frequently overlooked. In other works, residents that had been employed in textile mills, created purses using a series of bottle caps.



[Figure 6] Light (2015, Shanghai)

The Lamps and Lanterns workshop conducted in Shanghai (fig 7) was held during the Lantern festival. The community residents that participated in this particular project were different ages, and the experiment managed to combine both industrial waste and also household waste that the residents provided. This workshop shows unexpected imagination, creativity and the team spirit of public. With the guidance from professional designers, these residents created over 100 lamps which were placed along the roadside on the day of the Lantern festival. The scene contributed to the overall festival atmosphere, demonstrated low carbon environmental consciousness and significantly represented cohesion in the community.



[Figure 7] JELLY fashion (2015, Guangzhou)

The Jelly Fashion project was conducted in 2016 with residents living in the countryside village Liu Cun. The purpose of the project was to develop individual confidences and bring the community together through education and creative practice using locally sourced, waste material. Utilizing the abandoned and found materials formers were created through simple means for printing from whilst on the street. The project also embraced the creativity of local street makers that were able to construct garments from the prints that the community produced. The outcome of the work was a community fashion show and although this was a short three-day project the connection with the villagers was substantial with well over 300 villagers getting involved.

The project was named Jelly because it was the name of a local resident that became intrinsically involved in developing community enthusiasm. The Jelly Street project was subsequently exhibited at the National Centre for Craft & Design UK (2018) for a six-week period.



[Figure 8] Home Furnishing Decoration (2017, Guangzhou)

In 2017 the Upcycling workshop centred on a theme associated to Home Furnishings and was conducted in a commercial space which introduced additional challenges. Despite the change in approach and the various constraints the project outcomes still attracted much interest and provided an opportunity for young designers to consider and explore realistic entrepreneurial opportunities. With each project that is conducted additional challenges are introduced in an aim to make the projects not only environmental friendly and to connect communities, but also to ensure that they are commercially sustainable.

### 3 Social Governance Effect

From the descriptions above relating to the workshops and exhibitions that have been conducted we can clearly see that an Upcycling mentality has a positive impact in addressing a variety of social problems which we refer to as "Design for public, design from public".

#### 3.1 Solutions to the Aging Problem

During the workshop and exhibitions with the Shanghai communities, our team had collaborated with local authorities, held six low carbon design workshops and organized regular activities. Our team worked with designers to ensure that they could guide residents in being creative and appropriately responsive to the different themes, the different materials and different processes. The main participants were individuals that had retired within the last 10 years with abundant experience and ability and capable of teaching their grandchildren. The population of junior retiree in current Chinese society is high and the Upcycling project could not only help release their knowledge and experience but can also bring them psychological and spiritual satisfaction. During the workshop these particular residents demonstrated a high interest by active participation and fruitful result. It seems reasonable to suggest therefore that these Upcycling activities in the community are effective in solving some of the communities aging problems.

#### 3.2 Public Education

The main idea of the Upcycling activities in the different communities is public education on environmental awareness and the concept of low-carbon design. From the feedback received during the project, and our subsequent analysis of data, we find that all the participants have developed a better understanding of reuse and the upgrading of waste through their experiences when they take part in those activities. The Upcycling project also made individuals and communities aware of the amount of consumption associated to low carbon design. Most of the participants and visitors were of the opinion that the completed design works in the various Upcycling projects could be sold as a viable product. The groups also recognized and accepted the value of higher prices for such works due to the creative design and more time required for the output to be created. The Upcycling activities in the countryside and the factories have also had a special education effect. The workers in the factory environments collectively developed a deeper understanding of the work they engaged in, whilst the farmers realized they could also make use of their daily waste and be more constructive in environmental protection.

#### 3.3 Entrepreneurial opportunity

The team held the workshop with a Home Furnishing Decoration theme in order to test the commercial effect of the works and the possibility of publishing works as a product by using commercial spaces. It was positive to note that the visitors were interested in most of the works and were willing to pay an appropriate price for them. This outcome is encouraging to those designers who plan on making a living out of Upcycling. Some designers have started their own business on Upcycling design.

### 4 Conclusions

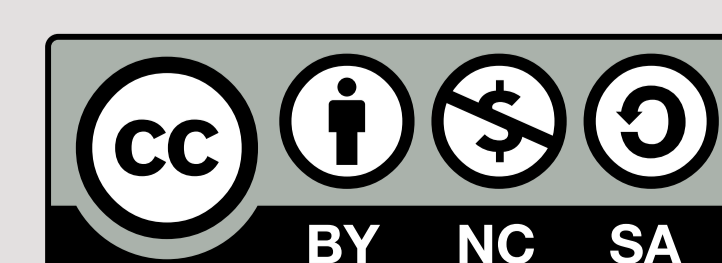
4.1 According to the activities in different communities, Upcycling has a high public engagement.

4.2 The Upcycling project has a positive effect in social governance by help solving problems associated to the aging problem, the employment problem and the environmental education problems.

4.3 Positive interaction between professionals and the general public occurred during Upcycling activities.

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