

"Dear reader

The implementation phase for the Cradle to Cradle Islands (C2CI) project has started. Inspired by the Cradle to Cradle® concept, all partners have selected their pilot projects to work on. The close cooperation in the three development clusters (energy/mobility, energy/water and energy/materials) is running smoothly, this results in the strengthening of the trans national approach. The concept of the Eternal Holiday House (EHH) has been realized in the "Bambi" house on Ameland; for example an innovative decentralized water system is installed. We are aiming to implement more examples of this concept on other islands. We have been surprised at the Samsø meeting. The island, which is world famous for its self-sufficient and energy renewable energy systems, is an example of best practices and will be a guide for all partners. The new partners Urban Answers/Roosevelt Island (NY, United States) and the University of Oulu (Finland) on the Varjakka islands have joined the project. We have received a lot of publicity and increased interest in the project. Therefore we have started the concept of a

"Cradle to Cradle Islands Knowledge Exchange Network" in order to exchange the project and its goals to a wider circle of supporters and stakeholders more efficiently. We are aiming for new partnerships and for setting up a string of islands all around the world, which all will work by the Cradle to Cradle®-concept. This is rather ambitious of course but we like challenges! We are looking forward to continue the good work on C2CI project in this new year together with you!

Anne de Vries, project manager  
Hans van Meerendonk, project coordinator



## Partner meeting at Samsø

The last partner meeting was held at Samsø on 5<sup>th</sup> and 6<sup>th</sup> October 2010. After one and a half day of presentations and discussions about communication and

how to get the projects realized, we went on study tour. We visited wind turbines and a biomass solar panel energy plant.



The Cradle to Cradle Islands project works towards a clean and healthy future for the islands in the North Sea region through the implementation of innovations based on the Cradle to Cradle® concept.



WATER



ENERGY



MATERIALS



## Studies

### Roadmap

Roadmap for a sustainable energy future – self supply for the tourism Island of Spiekeroog in 2030. During a research conducted in collaboration between IIIIE at Lund University and Delft University of Technology, Maria Petrasova was exploring ways of transition towards a sustainable energy future for the tourism island of Spiekeroog. The main focus of the research was on how to reduce the energy consumption by 2030 with 50%. Based on creativity and a backcasting workshop based on consultations with residents, tourists and the municipality of the island, possible and desirable future visions and scenarios of 2030 were generated and assessed. Finally a roadmap on how to achieve the sustainable energy future goals was developed. The full report and a PowerPoint presentation of the research is available at the C2CI website.

### The Future of Spiekeroog's Swimming Pool.

Spiekeroog, one of the German partner islands, is popular among tourists for its authentic atmosphere, nature and relaxation possibilities. To preserve these natural values for the future, local resilience in terms of energy self-sufficiency and use of local resources is considered essential by the island community. The swimming pool annex SPA on the island is outdated and consumes a significant part of the island's energy. A study by the team of Delft University of Technology under supervision of Prof. Han Brezet has researched the options for a new pool, to be extremely energy-efficient and to be supplied by locally available resources. A graduate student from TU Delfts' master education in Sustainable Energy Technology (SET), Frans van



Hoogstraten, has assessed the current swimming pool on Spiekeroog. He has also done a benchmark on today's existing most energy-efficient pools. The general energy balance of a conventional swimming pool has been constructed and an analysis is made of the available sustainable resources on the island. One of the conclusions is that there is more than enough primary energy available on and around the island. But that harvesting all will be a problem due to aesthetical consequences and barriers since that there is no support for a lot of wind- and solar power on the island. Therefore, Van Hoogstraten also developed a model of all possible energy demand functions in the swimming pool, ranging from very luxurious (SPA, restaurant, shops etc.) facilities to very simple facilities (just a small pool). With his 'Model for Local Sustainable Energy Independence of Swimming Pools', architects, builders and decision makers can now easily design their own future swimming pool/SPA facility and formulate the program of demands. On request of the Dutch island of Vlieland the team of Delft University of Technology has given a small workshop on the model and findings, as part of an envisaged follow-up project in the Netherlands. The C2CI partner Aalborg University will include the Spiekeroog findings in its overall Energy Model







### **Roosevelt Island**

As part of the approved extension of Cradle to Cradle Island a partner from New York joined the project; Urban Answers, an urban development company in New York. The Interreg IVB North Sea Program is covering 50% of the costs of this partnership (total budget € 20.000). Together with the Columbia and Fordham Universities and in close contact with the authorities of Roosevelt Island a feasibility study was carried out during the last half year of 2010. This study covers the present situation on Roosevelt Island regarding water,

energy/mobility and materials (focused on waste management). This study together with the ideas and results of C2CI will be the basis to look for future solutions on the island. With this approach the Roosevelt Island authorities want to become an example for the rest of New York. The results of the study were presented to RIOC (Roosevelt Island Operating Corporation) on 8 December 2010. Together with the Lead Partner possibilities will be investigated to execute similar/ C2CI-like pilot projects on Roosevelt Island.



### **Workpackage Marina**

Workpackage Marina. The marina project in Zeeland is in full swing. The students of the Delft University of Technology are working on the design of the harbor master office and a small recreation apartment building. The objective of both buildings is to harvest its own energy and water and to be constructed of sustainable/ Cradle to Cradle® materials. Both buildings will be floating in the Lake Grevelingen. The Lake Grevelingen is now a closed salt water lake, but will get small tidal fluctuations in the nearby future. In March 2011 the

students will present their work. In the meantime the master plan of the marina and a small recreational village is also reaching its final layout plan. In February 2011 students of the HZ University of Applied Sciences will study the impact of floating objects on the biodiversity in the Lake Grevelingen. The aim of this research is to enhance the biodiversity by means of artificial reefs. This research is part of a larger research field within the HZ University of Zeeland which is called Building with Nature.





## RESEO

RESEO, stands for Renovation Strategy for Energy Optimization of holiday houses on the North Sea islands inspired by Cradle to Cradle®. It can be used as a guide and a database, providing the 6 steps to be followed during the energy-renovation of a house, including a review of methods and technologies that can be implemented during each step. The scheme provides 74 energy related methods and technologies, including description, advantages, disadvantages, technology status, seasonal potential, efficiency an indicator on the Cradle to Cradle® design principles, technology producers and an indicator on the level of potential for holiday houses.



## Storage of rainwater under ground

Storage of rainwater under ground during winter times to realize sustainable water supply in Summer. Looking into the complete water cycle over the year for the Dutch Wadden Islands more than enough water is available for all the different functions (people, agriculture and nature). But the periods of maximum 'production' and maximum consumption do not match. During Winter a lot of rain and surface water must be evacuated to the Wadden Sea to keep 'dry feet'. During Summer time there is a shortage of drinking water, because of a peak demand in the touristic season. For example on the island Terschelling: yearly 10 to 15 million m<sup>3</sup> relatively clean water find its way into the sea. In 2020 the demand of drinking water will be 0,7 million m<sup>3</sup> per year. So the solution will be: Aquifer Storage and Recovery.





## Creative box Cradle to Cradle®

Translating the Cradle to Cradle® concept from an inspiring vision to practical applications is frequently perceived as a challenge. Yet there are many examples already existing in the global market where companies are optimizing products and processes in accordance with the Cradle to Cradle® design principles. Early on in the Cradle to Cradle Islands project it was discussed how to make Cradle to Cradle® more tangible for partners and their local stakeholders. Different approaches have been initiated so far, ranging from workshops organized in the local community to project descriptions in the national languages of the partners. Another approach has been to develop a collection of Cradle to Cradle® product samples so that people can see and touch existing Cradle to Cradle® products. EPEA developed extensive exhibits for the NUTEC fair in Frankfurt and other smaller exhibits, but instead of just copying these the C2CI partners decided to have a toolbox with which to create their own exhibits. Thus the idea of 'Cradle to Cradle® Creative Box' was born. Creative Box will contain product samples together with

brief stories describing the product, whether it fits into the biosphere or the techno sphere, and what else is Cradle to Cradle® about it. With this, partners can then develop their own activities with local stakeholders in their communities, such as 'show and tell' or individual exhibits.



## Cradle to Cradle® festival Berlin

From 26 January to 16 March 2011 the first Cradle to Cradle® - Festival takes place at the Aedes Architekturforum in Berlin, Germany. Visitors have the chance to experience many different forms of Cradle to Cradle® implementation. Besides a variety of products and a number of architecture projects, different regions are introducing their experiences with the Cradle to Cradle® principles. The diverse programs offer the

opportunity to get a closer look at specific companies and their products. Visitors can also join trainings or game sessions. They are also invited to join and listen to presentations and panel discussions. For more detailed information about the Cradle to Cradle® - Festival and its program, please have a closer look at the official website: [www.cradletocradlefestival.com](http://www.cradletocradlefestival.com).

## Links to other programmes

- IRRI is lead partner in NPP project, called SMALLEST, promoting renewable energy generation in remote rural regions. Runde Environmental Centre is an associate partner.
- Links have been made with an IEE project called ISLE-PACT. ISLE-PACT consists of over 60 European islands committed to developing Local sustainable targets of 20 % reduction for the year 2020.
- There is a connection to a possible project called KASK also in the North Sea Program.
- Dutch and German partners developed a first proposal for the water cluster for a possible Interreg IVA Programme (follow up project of the C2CI project)

## Awards

### Cargo bike awarded

Amelands' Duo Cargo bike: Spin off The Duo Cargo Bike 'Vrachtfiets' for short-range distances, developed for the Klein Vaarwater tourist resort on project island Ameland, received a lot of media attention and follow-ups.

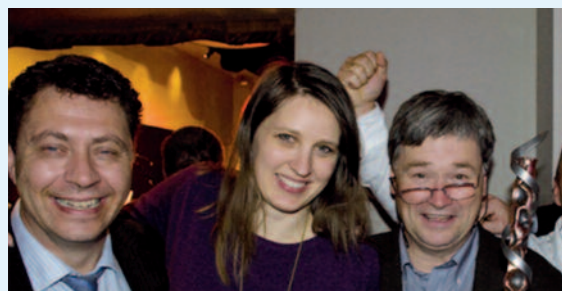
Amongst others the Dutch national news stations NOS and RTL nieuws presented short TV items on this new mobility concept. In addition, popular websites and professional journals like Bright.nl, Springwise.com and PSFK published very positive comments. The –former-students behind Vrachtfiets are now professionalizing their new venture business and are also introducing the concept successfully in Delft and Amsterdam. See for more information: [www.vrachtfiets.nl](http://www.vrachtfiets.nl)





### National prize for Runde Environmental Centre

Starting with the design and drawings of the building, innovative and sustainable solutions have been an integral part of developing Runde Environmental Centre, which is located on the small island of Runde on the western Norwegian coast. Green building technologies, Cradle to Cradle® applications in terms of energy, water and material use and communication of sustainable innovations to the public have been key to the centre's activities and mandate from day one. Only one year after opening its doors, Runde Environmental Centre was awarded the prestigious 'VVS' prize in October 2010 for its innovative and environmentally advanced heating and sanitary solutions. The Norwegian Sanitary, Plumbing and Heating Industry Association annually selects one project for the award which is intended to inspire the



association's members to care about the environment, and to choose the best possible 'green' solutions for new buildings. Especially the vacuum toilet system at the centre, which will be developed further to recover energy (biogas) and nutrients from the sewage, and the heat exchanger – using energy from sea water to heat up the building – were central criteria for the award.

The Cradle to Cradle Islands project: a partnership of 12 islands and 12 other organisations (government bodies, educational, environmental and water organisations) cooperating for a healthy and clean future for islands in the North Sea Region.

The partnership: (NL) Provincie Fryslân (Lead Partner), Delft University of Technology, Wetsus, Vitens, Ameland, Texel, Wetterskip Fryslân, HZ University of Applied Sciences; (UK) PURE Energy Centre, Shetland Islands Council, IRRI; (G)

Spiekeroog, Insel- und Halligkonferenz, OOWV; (DK) Aalborg University, Samsø Energiakademi, Norddjurs; (SE) Lund University/Ven en Tjörn; (N) Runde Environmental Centre and Storvågan Environmental Centre.

Would you like to know more or want to contribute to the project? Visit our website or contact us.

- Website: [www.c2cislands.org](http://www.c2cislands.org)
- Contact: [info@c2cislands.org](mailto:info@c2cislands.org)

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