

ecosan – newsletter - no. 16 - 5/2005 - english



This regular electronic news bulletin from the ecosan project of GTZ, Germany, addresses a network of friends and professionals involved in initiatives and projects in the field of closed-loop wastewater management and sanitation.

Dear friends and colleagues!

Welcome to GTZ's ecosan newsletter issue no. 16!

The latest editions of the English version are distributed directly via e-mail in the globally readable, text-only format. You can also download German, French, Spanish, English and Chinese versions as easy-to-read pdf files from our web-site.

!!! Downloads:

German: <http://www2.gtz.de/ecosan/download/nl16dt.pdf>

Spanish: <http://www2.gtz.de/ecosan/download/nl16esp.pdf>

French: <http://www2.gtz.de/ecosan/download/nl16fr.pdf>

English: <http://www2.gtz.de/ecosan/download/nl16eng.pdf>

Chinese*: <http://www2.gtz.de/ecosan/download/nl16cn.pdf> [from July 2005]

* For organisational reasons, the Chinese version is published later than the others.

Your ecosan team hopes you enjoy the current issue!

Your contributions

This medium lives through interaction. So please keep sending your suggestions, requests and information to be published via this newsletter to the addresses at the end of this issue. Thank you in advance for any contribution!

ecosan sector project

Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ)
GmbH
P.O. Box 5180
65726 Eschborn, Germany
fon: +49 6196 794220
fax: +49 6196 797458
e-mail: ecosan@gtz.de
internet: <http://www.gtz.de/ecosan>



Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH

commissioned by:



Federal Ministry
for Economic Cooperation
and Development

Contents

- In-house News**
- Ecosan data sheets for projects and technologies now available!
 - New members of the GTZ ecosan team
- News from the 3rd international ecosan symposium**
- Headlines from the 3rd international ecosan symposium in Durban (May 23-27, 2005)
- International ecosan conference in India**
- International ecosan conference planned in Mumbai (Bombay), India on 25th and 26th November 2005
- News general**
- "We must promote the cycle-oriented concepts such as IWRM ... and ecosan ... more vigorously." - German Federal Minister for the Environment Jürgen Trittin
 - Report on ecosan at the CSD 13 in New York, April 2005
 - Centre for Science and Environment awarded Stockholm Water Prize 2005
 - NASA and ESA engaged in ecosan system development
- Job vacancies**
- Jobs for integrated experts (CIM) in Sri Lanka
 - Sri Lanka: adviser for integrated agriculture
 - Sri Lanka: town and regional planner
 - Switzerland: SANDEC/EAWAG: Urban Infrastructure Planner or Environmental/Sanitary Engineer
- Pilot projects German cooperation**
- China: Yunnan-Kumming project wins SwissRe prize
 - France: The Foundation Ensemble interested in ecosan projects
 - Philippines: GTZ water program begins to implement ecosan pilot facilities
 - Vietnam: ecosan concept for village school
- Pilot projects other organisations**
- China: Asia Regional Consultation meeting for WHO "Guidelines for the safe use of excreta and greywater" in Guilin
 - China: Short report from the 2005 WB-WSP-EAP Thematic Conference in Guilin
 - France: A green "worm" for the treatment of greywater in urban areas
 - India: SCOPE builds urine diverting dehydration toilets in South India and the Andaman Islands
 - Iran: ecosan exhibition in Farzanegan high school in Tehran
- Products and links**
- Food from used water - reuse of grey water with "tower gardens"
- Publications on the web**
- An ecosan system - scenario for a conference centre and tourist resort in Kunshan, China
 - Constructed wetlands as an option for Syria - a Ph.D. thesis from Abir Mohamed
 - Sanitation and cleanliness for a healthy environment
 - HCES Thing
- New upcoming events**
- | | |
|--------------|--|
| 6-10/06/05 | Learning Alliances for scaling up innovative Approaches in the Water and Sanitation sector-Symposium, Delft, Netherlands |
| 10-12/06/05 | Energy + Nature 2005, North German Energy Techniques Fair for Agriculture and Forestry, Hildesheim, Germany |
| 21-27/08/05 | World Water Week, Stockholm, Sweden |
| 31/8-2/9 /05 | 4 th International Symposium - Anaerobic Digestion of Solid Waste, Copenhagen, Denmark |
| 26-29/09/05 | World Toilet Summit 2005, Belfast, Ireland |
| 11-13/10/05 | Deutscher Tropentag (Tropical Day) 2005, Stuttgart-Hohenheim, Germany |
| 10-14/09/06 | 5 th World Water Congress and Exhibition, Beijing, China |

Events reminder	06-08/06/05	3 rd IWA Leading-Edge Conference on Water and Wastewater Treatment Technologies 2005, Sapporo, Japan
	08-10/07/05	International Conference on Water Economics, Statistics and Finance, Rethymno/Kreta, Greece
	10-15/07/05	1 st IWA-ASPIRE (Asia Pacific Regional Group), Singapore
	09-12/08/05	Management of Residues Emanating from Water and Wastewater Treatment, Johannesburg, South Africa
	18-21/09/05	Nutrient Management in Wastewater Treatment Processes and Recycle Streams, Krakow, Poland
	21-22/09/05	Federal and State Conference of ATV-DVWK, Potsdam, Germany
	12-14/10/05	Wastewater treatment in rural area, Kassel, Germany
	11/05	2 nd South Asian Conference on Sanitation (SACOSAN-2), Islamabad, Pakistan
	08-11/11/05	5 th IWA Wastewater Reclamation and Reuse, Jeju, Korea
	16-22/03/06	4 th World Water Forum, Mexico
	02-07/04/06	7 th Int. Conference on Urban Drainage Modelling & 4 th Int. Conf. on Water Sensitive Urban Design, Melbourne, Australia
	23-25/05/06	Integrated Water Resources Management and Challenges of the Sustainable Development, Marrakech, Morocco

In house news

ecosan data sheets for projects and technologies now available!

With the increasing number and variety of ecological sanitation projects, it has become increasingly difficult to follow recent developments and maintain an overview of current trends and practices around the world. To this end, the GTZ has elaborated (1) data sheets looking at specific ecosan technology modules as well as (2) data sheets looking at interesting ecosan case studies from around the world.

(1) Data sheets for ecosan technologies

Ecological sanitation concepts generally tailor sanitary systems to fit the needs of social, economic and environmental sustainability in a given context. Therefore a wide range of technologies can, and currently is, being used in ecological sanitation systems.

The GTZ ecosan project is developing a series of data sheets for ecosan technologies. The first of these technical data sheets will be published as a draft for public consultation. All feedback received will be incorporated into the final version. The following technical data sheets can already be downloaded in draft form from our web-site: Urine diversion, Dehydration toilets, Composting toilets and Vacuum technology.

Any contribution for new technical data sheets or feedback and comments on published draft versions are very welcome!

We are interested particularly on any reproducible blue prints, schemes, sketches, and drafts, as well as further information to technical variations, additional pictures, graphics, commercially available assets, manufacturers, costs, etc.

Please send us your comments and contributions on the draft ecosan technical data sheets on urine diversion, dehydration toilets, composting toilets and vacuum technology by 31 July 2005 to ecosan@gtz.de

!!! Download technical data sheets for ecosan components:

1. Urine diversion

1.A Urine diversion - General description

<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-01.A-urine-diversion-general-description.pdf>

1.B.1 Urine diversion - Toilets

<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-01.B.1-urine-diversion-toilets.pdf>

- 1.B.2 Urine diversion - Waterless urinals
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-01.B.2-urine-diversion-waterless-urinals.pdf>
- 1.B.3 Urine diversion - Piping and storage
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-01.B.3-urine-diversion-piping-storage.pdf>
- 2. Dehydration toilets**
- 2.A Dehydration toilets - General description
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-02..A-dehydration-toilets-general-description.pdf>
- 2.B.1 Dehydration toilets - Double vault with urine diversion
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-02.B.1-dehydration-toilets-double-vault-ud.pdf>
- 2.B.2 Dehydration toilets - Single vault with urine diversion
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-02.B.2-dehydration-toilets-single-vault-ud.pdf>
- 2.B.3 Dehydration toilets - Without urine diversion
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-02.B.3-dehydration-toilets-without-ud.pdf>
- 2.B.4 Dehydration toilets - With movable containers
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-02.B.4-dehydration-toilets-movable-containers.pdf>
- 2.B.5 Dehydration toilets - Traditional dehydration toilets in Yemen
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-02.B.5-dehydration-toilets-traditional-Yemen.pdf>
- 3. Composting toilets**
- 3.A Composting toilets - General Description
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-03.A-composting-toilets-general-description.pdf>
- 3.B.1 Composting toilets - Single-vault composting toilets
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-03.B.1-composting-toilets-single-vault.pdf>
- 3.B.2 Composting toilets - Multiple-vault composting toilets
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-03.B.2-composting-toilets-multiple-vault.pdf>
- 3.B.3 Composting toilets - Movable bucket/bin composting toilets
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-03.B.3-composting-toilets-movable-bucket.pdf>
- 4. Vacuum technology**
- 4.A Vacuum technology - General description
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-04.A-vacuum-technology-general-description.pdf>
- 4.B.1 Vacuum technology - Vacuum sewer systems
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-04.B.1-vacuum-technology-sewer-systems.pdf>
- 4.B.2 Vacuum technology Vacuum sanitary installations
<http://www2.gtz.de/ecosan/download/gtz-ecosan-tds-04.B.2-vacuum-technology-sanitary-installations.pdf>

Or directly under:

<http://www2.gtz.de/ecosan/english/publications-GTZ-technicaldatasheets.htm>

!!! Please send your comments on the draft versions to ecosan@gtz.de

(2) Data sheets for ecosan projects

The GTZ ecosan project is also developing a series of data sheets for ecosan projects. These data sheets present concise information on projects from around the world where ecosan concepts have been implemented, covering projects from both developing and industrialised countries, high and low tech systems, rural and urban locations, pilot and large scale projects, and projects in various cultural settings. They contain in a very concise form all relevant technical, organisational, and financial data on the project, as well as a description of particular experience, problems and lessons learned.

The first data sheets for ecosan projects in Germany, China, and other countries are now available on the GTZ website, while more will be added within the coming weeks.

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The GTZ-ecosan team does not intend to limit the ecosan project data sheets to projects where GTZ has been involved, and would warmly welcome the involvement of other institutions and individuals who wish to publish their project experience within the data sheet series. A template file for ecosan project data sheets is provided on the GTZ ecosan website, where project information can be introduced by any interested party and sent to the GTZ ecosan team for publication on the project's web-site.

Your contribution to extend the list of data sheets for ecosan projects is very welcome!

!!! Download of the data sheets for ecosan projects and of the template:

Project data sheets:

- 001 Vacuum sewerage and greywater recycling, office building "Ostarkade" of the KfW Bankengruppe, Frankfurt am Main Germany
<http://www2.gtz.de/ecosan/download/ecosan-pds-001-Germany-Frankfurt-KfW.pdf>
- 002 Innovative wastewater management project "Lambertsmuehle", Burscheid, Germany
<http://www2.gtz.de/ecosan/download/ecosan-pds-002-Germany-Lambertsmuehle.pdf>
- 003 Ecological settlement Allermoehe, Neu Allermoehe, Hamburg
<http://www2.gtz.de/ecosan/download/ecosan-pds-003-Germany-Hamburg-Allermoehe.pdf>
- 004 Ecological housing estate Luebeck-Flintenbreite, Luebeck, Germany
<http://www2.gtz.de/ecosan/download/ecosan-pds-004-Germany-Luebeck-Flintenbreite.pdf>
- 005 Urine diverting dry toilets dissemination programme, Guanxi province, China
<http://www2.gtz.de/ecosan/download/ecosan-pds-005-China-Guanxi.pdf>
- 006 Biogas-ecosan project, Waldmichelbacherhof, Bessenbach, Germany
<http://www2.gtz.de/ecosan/download/ecosan-pds-006-Germany-Waldmichelbacherhof.pdf>
- 007 Öko-Technik-Park, Hannover, Germany
<http://www2.gtz.de/ecosan/download/ecosan-pds-007-Germany-Hannover-Oekotechnikpark.pdf>
- 008 Gebers collective housing project, Orhem, Sweden
<http://www2.gtz.de/ecosan/download/ecosan-pds-008-Sweden-Gebers.pdf>
- 009 ecosan within the community based natural resources management project Hanahai and Paje, Botswana
<http://www2.gtz.de/ecosan/download/ecosan-pds-009-Botswana-Hanahai-Paje.pdf>
- 010 ecosan pilot installations Koulikoro, Mali
<http://www2.gtz.de/ecosan/download/ecosan-pds-010-Mali-Koulikoro.pdf>
- 011 ecosan school toilets, Garla Mare, Romania
<http://www2.gtz.de/ecosan/download/ecosan-pds-011-Romania-Garla-Mare.pdf>
- 012 TepozEco urban ecosan pilot program, Tepoztlan, Mexico
<http://www2.gtz.de/ecosan/download/ecosan-pds-012-Mexico-TepozEco.pdf>
- 013 Use of reclaimed water in the Jordan Valley, Jordan
<http://www2.gtz.de/ecosan/download/ecosan-pds-013-Jordan-Valley.pdf>
- 014 Humification of sewage sludge, Elminia and Nawaq, Egypt
<http://www2.gtz.de/ecosan/download/ecosan-pds-014-Egypt-Nawaq.pdf>
- 015 Constructed wetland, Haran-Al-Awamied, Syria
<http://www2.gtz.de/ecosan/download/ecosan-pds-015-Syria-HaranAlAwamied.pdf>
- 016 Urine separation and reuse project at the main building of GTZ GmbH, Eschborn, Frankfurt am Main, Germany
<http://www2.gtz.de/ecosan/download/ecosan-pds-016-Germany-GTZ-Eschborn.pdf>

Or directly under:

<http://www2.gtz.de/ecosan/english/publications-GTZ-projectdatasheets.htm>

Template:

<http://www2.gtz.de/ecosan/english/publications-GTZ-projectdatasheets.htm>

!!! Please send your contribution to the ecosan project data base to ecosan@gtz.de

New members of the GTZ ecosan team

We are pleased to welcome the following new employee and interns to the GTZ ecosan team:

- **Carola Israel** has since February 2005 succeeded Susanne Becker as administrative secretary and office manager.
- **Eva Mia Siska** from Indonesia, is in her last semester as a student in an international Master of Science Program in "Water Resources Engineering and Management (WAREM)" at the University of Stuttgart, Germany. She is currently doing an internship in the ecosan-team in Eschborn (April – June 2005).
- **Nicola R ath** from Germany, Diploma Biology (University W urzburg) and independent Architect (University of Applied Science Frankfurt/Main) focussing on "ecological building", will do an internship with the ecosan team in Eschborn from June till August 2005.
- **Bettina Vogel** from Germany, Diploma Engineer in Civil Engineering majoring in Water Resources and Environmental Protection, graduated from the University of Applied Science Augsburg, will also do her internship with the ecosan team in Eschborn from June till August 2005.
- **Liquong Yang** from China, graduated from Master Study Program "Sustainable Resource Management" from the Technical University Munich, will do an internship with the ecosan team in Eschborn from August till October 2005.

News

from the 3rd
international
ecosan
symposium

First information from the recently held 3rd international ecosan symposium in Durban (May 23-27, 2005)

On 26th May 2005, the 3rd international ecosan symposium ended in Durban, South Africa. The large number of participants from around the world attending the symposium highlighted that fact that ecosan is now an important alternative for the sanitation of the future. At the beginning of the conference, Christine Werner from the GTZ-ecosan team reflected on the progress that has been made with regard to the recommendations for action adopted at the 2003 ecosan symposium in L ubeck.

On the closing day Arno Rosmarin, the communication manager of SEI (Stockholm Environmental of institutes) in his concluding remarks, stated the currently many ministers and other decision makers have taken ecosan as their political strategy and therefore there have been dramatic rising demand for ecosan solutions. And for this reason we must increase the capacity for high-quality ecosan training in coming years.

Over the 4 days of the symposium participants attended and contributed to a range of parallel sessions addressing practical project experience and latest research results, as well as a side event discussing aspects of capacity building and the possible formation of an international capacity building network.

The conference was followed on the Friday 27th May by a workshop on "Agricultural and Horticultural Aspects of Ecological Sanitation" organised by EcoSanRes. The workshop heard presentations of practical safe use experience from Zimbabwe, Mexico and Burkina Faso before breaking into groups to discuss particular aspects of agricultural and horticultural use. The feedback from the group work proved particularly interesting with discussions focussing, among other topics, the gender issues that project experience has raised with regard to urine diversion toilets.

Benefitting from the opportunity offered by the conference, the WHO organised a working meeting to discuss their upcoming guidelines on "The safe use of excreta and grey water" on Saturday 21st May.

All short presentation versions are available for downloading in the symposium website and the long version will also be available shortly.

!!! Further information <http://www.buildnet.co.za/ecosan>

!!! Download:

"From Lübeck to Durban - international progress on the 10 Recommendations for Action from the 2nd Int Symposium for ecological Sanitation" (C. Werner, 2005):
<http://www2.gtz.de/ecosan/download/Werner05-Progress-10Recommendations.pdf>

International ecosan conference in India

International ecosan conference planned in Mumbai (Bombay), India on 25th and 26th November 2005

An international conference on ecosan will take place in Mumbai (Bombay), India on the 25th and 26th November 2005. The Indian Water Works Association (IWWA), a foremost non-governmental voluntary organisation, is an association of engineers, consultants and scientists, working in the field of water and sanitation for the last 36 years throughout India through its 25 regional centres. It has decided to take the place ecological sanitation high on its agenda. IWWA has, therefore, decided to conduct an international conference on ecosan, which will be organised in collaboration with the Government of Maharashtra (GoM), the International Water Association (IWA), GTZ Germany and All India Institute of Local Self Government (AIIILSG).

The website of the conference is already on-line and provides interesting and necessary information. The conference will cover a wide range of topics, ranging from "Ecosan-systems - preferred solutions in rural and peri-urban areas" to "Decision making tools".

We hope to see you all at what we hope will prove to be an important conference!

Important deadlines:

Receipt of 250 words abstract until 30 June 2005

Notification to Author/paper selection: 30 August 2005

Last day for submission of full paper: 30 September 2005

!!! Visit: <http://www.iwwainternational.com/default.asp>

!!! Contact: Dr. S. V. Dahasahasra: daha2005@vsnl.net

News - general

"We must actively promote cycle-oriented concepts such as IWRM ... and ecosan." - German Federal Minister for the Environment, Minister Jürgen Trittin

At a water conference of Green Fraction of the German federal parliament in Berlin on 15.04.05, the German Federal Minister for Environment, Jürgen Trittin called for a move towards cycle oriented systems in water management. In his speech "On the political ecology of water", he stated that the access to water is as important as the prevention of a second September 11.

"The balance so far in our efforts to reach the MDGs shows that successes have varied extremely depending on the region and that has been most elusive in the poorest countries. It also shows that all progress in the area of sanitation has evaded us. If access to clean drinking water and basic sanitary services is a central pre-condition in the fight against poverty, we must actively promote sustainable concepts for water supply, and cycle oriented concepts such as Integrated Water Resources Management (IWRM) in catchment areas and ecological sanitation (ecosan). We must move away from a discharge oriented to a closed loop management, which recognises wastewater and liquid waste as the raw materials for fertiliser production, biogas and service water for industry and enables technologically and culturally appropriate solutions to be found.

I will engage myself strongly at the 13th Session of the Commission on Sustainable Development (CSD-13, 11.-22. April in New York) to ensure advances are made in this regard.”

!!! Download:

Complete text of the speech from BM J. Trittin: “On the political ecology of water “
<http://www.bmu.de/reden/doc/35523.php>

In his speech to the high-level segment of the CSD 13, Jürgen Trittin called for sanitation to become the number 1 political priority.

The Minister stressed that in addition to the concept of the Integrated Water Resources Management, other available instruments could be used, including those of the WSSCC (Water Supply and Sanitation Collaborative Council).

Trittin stressed "the access to the basic supply, including water and energy is a condition for peace."

!!! Download – Speech from Minister Trittin

<http://www.bmu.de/reden/doc/35523.php>

!!! Download – Sanitation planning guide from the WSSCC

Household Centred Environmental Sanitation Approach:

<http://www.wsscc.org/hces>

Report on ecosan in the CSD 13 in New York, April 2005

Ecosan was strongly represented at a side-event and two learning centres of CSD 13, all of which were extremely well visited.

The Swedish and the Ugandan government held a joint ecosan side event with the title "Innovative Sanitation and Water Solutions for Livelihoods and Environmental Security". A learning centre "Environmental Sustainable Sanitation" was organised by the Swedish EcoSanRes program in co-operation with UNDP, and a second learning centre "ecosan and women" was held by the Norwegian university for life sciences highlighting that that ecosan also offers chances to address gender issues. The guidelines of the WHO on the safe use of excreta and greywater were also discussed at this second learning centre

!!! Information on CSD and side events: <http://www.iisd.ca/csd/csd13/>

Centre for Science and Environment awarded Stockholm Water Prize 2005

The Centre for Science and Environment (CSE) in New Delhi, an influential Indian non-governmental organisation led by Ms. Sunita Narain, a dynamic advocate for water, environment, human rights, democracy and health, will receive the 2005 Stockholm Water Prize.

At the CSD 13 Sunita Narain said the Stockholm Water Prize recognised the fact that the issue of water today required a different management paradigm. She underscored that the critical ingredient for success was the involvement of local people in the management of their water resources, noting communities' ownership of water is the only way to achieve sanitation targets. She highlighted how water requires a different approach in order to turn commitments into action.

The Stockholm Environmental Institute press release states that: “The work of CSE has highlighted that water cannot become everybody's business until there are fundamental changes in the ways we do business with water. Policy will have to recognise that water management, which involves communities and households, has to become the biggest cooperative enterprise in the world. For this, the organisation forcefully argues that the prevalent mindset that water management is the exclusive responsibility of government must give way to a paradigm built on participative and local management of this critical life source.”

Sunita Narain is an important supporter of the ecosan approach to sanitation, as was the late founder of CSE, Anil Agrawal.

!!! **Download** articles on ecosan from Sunita Narain:

<http://www2.gtz.de/ecosan/download/ecosan-Symposium-Luebeck-opening-session.pdf>
or eg. <http://www2.gtz.de/ecosan/download/SNarain-FlushToilet.pdf>

!!! **Further information on the 2005 Stockholm Water prize at:**

http://www.siwi.org/press/presrel_05_SWP_Winner_Eng.htm

NASA and ESA engaged in ecosan systems development

Engineers at the Marshall Space Flight Center (MSFC) in Huntsville, AL, USA, succeeded in the early nineties in developing a prototype system that can recycle shower and wash water, urine, and even respiration and perspiration captured from the air back into potable drinking water. Taste tests and other end-use tests run at MSFC during 1992 demonstrated that the systems work well and that the recycled water is clean and acceptable for crew use. However, the systems must be tested onboard the Space Shuttle in low earth orbit to make sure they perform just as well in the microgravity environment of space.

[see: http://www.spacehab.com/missions/sts-57/exp_57_5.htm]

CNN have recently headlined on their web-site "Astronauts' sweat provides water for drinking!" and continues: "How do you quench someone's thirst when there is plenty of water, but not a drop of it is drinkable? It's a question NASA researchers have pondered for nearly two decades, but villagers in Iraq and tsunami victims in Asia will get a taste of their answer as early as this fall - before any astronaut in space does." Read the full article under the link below.

In a similar vein the European Space Agency (ESA) describes on its website: "When the first humans go to Mars, they will need to pack very carefully. Everything for a three-year trip will need to fit into one small spacecraft. Once on the journey, the astronauts will throw nothing away, including human waste. Precisely how to turn such waste into food, oxygen and water is the subject of an ESA project called MELISSA." ... "Designed to be fully up and running by 2005, the MELISSA project is the first of its kind to recycle organic waste for food production. The recycling systems used on Mir or the International Space Station currently only purify water and recycle exhaled carbon dioxide."

!!! **Further information:** http://www.esa.int/esaCP/ESA9CV0VMOC_Life_0.html

!!! **Full CNN article:***

<http://www2.gtz.de/ecosan/CNN-Astronautsweat-for-drinking.pdf>

Job vacancies

Jobs for Integrated Experts (CIM) in Sri Lanka

The German Centre for International Migration and Development (CIM), is a joint venture of the GTZ and the German employment agency. The Integrated Experts programme provides a wage "top-up" subsidy for qualified European specialists who obtain a contract with local institutions in developing countries.

Who can apply?

Applicants must hold German or European citizenship with many years relevant work experience, (except for applicants to junior positions), be articulate in German, and not be based on a long-term basis outside of the EU.

Adviser (integrated agriculture), Sri Lanka

SEED (Social Economical & Environmental Developers) is a non governmental organisation (NGO). It was established in 1996 in Vavuniya, Sri Lanka. Situated in the north of the central low-lands, the district is not only hub between the north and south of the province, but also one of the districts affected most severely from the civil war.

Since 1996, SEED has worked using participatory approaches with the most vulnerable and marginalised groups of the district: children, handicapped people, refugees, single mothers and their families, etc. After the tsunami, thanks to their experience in rehabilitation and resettlement, the organisation is heavily involved in sustainable and integrated reconstruction.

SEED works with 48 workers and is active in five sectors, one of them being "Integrated Organic Farming" –this will be supported by the integrated technical expert.

Duration: 2 years (prolongation possible)

CIM- Reference number: 60056151

!!! Complete job description under → Regions → Asia in:

http://www.cimonline.de/deutsch/frames/ind_stellen.htm

!!! Further Information and contact: Frau Beck susanne.beck@gtz.de

Town and Regional Planner, Sri Lanka

The North East Provincial Council (NEPC) is part of the state administrative structure in Sri Lanka, working in regional development and the development of communal administrative structures.

With the start of the peace process, the NEPC was responsible for the return of the refugees. Within regional and town planning sustainable and specific regional structural plans must now be made to ensure a long-term reconstruction. Beside that the north east province was also the most heavily affected by the tsunami on 26.12.04. The activities here measures should therefore not only cover the people who are affected by war but also by the tsunami.

NEPC is looking for a town and regional planner for this task.

Duration: 2 years (prolongation possible)

CIM- Reference number: 60054929

!!! Complete job description under → Regionen → Asien in:

http://www.cimonline.de/deutsch/frames/ind_stellen.htm

!!! Further information and contact: Frau Beck susanne.beck@gtz.de

Switzerland: SANDEC/EAWAG - Urban Infrastructure Planner or Environmental/Sanitary Engineer

The Swiss Federal Institute for Environmental Science and Technology (EAWAG) is a Centre for Aquatic Research. Its Department of Water and Sanitation in Developing Countries (SANDEC) is seeking to employ an Urban Infrastructure Planner or Environmental/Sanitary Engineer to conduct, together with local partners in low and middle income countries, research on integrated planning in environmental sanitation based on the Household-centred Environmental Sanitation (HCES) approach.

Candidates should hold a PhD in urban infrastructure planning, environmental/sanitary engineering, or in a closely related field. The applicant should have at least three years of practical or research experience with low and middle-income countries.

This position requires the individual to have a good theoretical and practical knowledge of urban planning as well as a sound technical competence in water and environmental sanitation infrastructure and services. Practical experience in demand assessment and stakeholder involvement for planning processes will be of significant advantage to qualify for this position.

The full job description can be downloaded from the web-site below:

!!! Download: <http://www.sandec.ch/AboutUs/sandec-jobvacancy-March05.pdf>

**News from the projects ...
... German co-operation**

China: Yunnan-Kumming project wins SwissRe price

On 2nd May 2005 SwissRe, a reinsurance company based in Zurich, awarded their Annual "International ReSource Award for Sustainable Watershed Management" to a project having eco-sanitation as the main thrust for protecting precious water resources at a ceremony in Rueschlikon, Switzerland.

On behalf of Yunnan Environmental Development Institute (YEDI), a locally based NGO, Mr. Henry Voigt received the award in Switzerland. Co-sponsoring the successful project proposal is the Yunnan Environmental Protection Bureau (YEPB), the provincial authority for environmental protection, and CIM (German Centre for International Migration and Development)

The proposal focused on dry, urine-diverting toilets, both in village households and tourist complexes, grey water management, development of a locally appropriate solid waste collection system, biogas development and the reduction of lake pollution by agriculture and horticulture. It will be implemented by the local people under the guidance of the Yunnan County Environmental Protection Bureau and the Puzhehei Lake Management Committee.

After initial successful experiences with ecosan toilets in Guangxi province as well as in the greater Kunming area, this new project will give even more impetus to the introduction of ecosan principles in the regional and local planning, showing that this principle is widely accepted when local conditions are taken into consideration.

!!! Contact: Henry Voigt vedi@vip.km169.net

!!! Interview with the prize winner:

http://www.swissre.com/INTERNET/pwswpspr.nsf/alldocbyidkeylu/ULUR-6BT8Z5?OpenDocument#China_0

!!! Informationen:

http://www.swissre.com/INTERNET/pwswpspr.nsf/fmBookMarkFrameSet?ReadForm&BM=..vwAllbyIDKeyLu/china_0?OpenDocument

France: Foundation Ensemble invests itself in ecosan projects

The Foundation Ensemble, a young private foundation (six months old), is among the first French organisations active in financing water and sanitation projects that are seriously looking to integrate ecosan concepts. The Foundation will be co-financing 2 new projects this year (one in Morocco and the other one in Peru) and may possibly collaborate with GTZ-ecosan on a project in China.

With its main objective to promote human development that integrates environmental protection, the Foundation Ensemble is engaged in other programmes, among them are education and environment.

!!! Contact: Irène S. Almeras, Directrice: ialmeras@fondationensemble.org

!!! Plus d'infos: <http://www.fondationensemble.org/ensemble/home.php?lang=fr>

Philippines: GTZ water program begin with the implementation of ecosan pilot facilities

The DILG-GTZ water program has been introducing ecological sanitation in rural and urban area in different locations in Visayas, Philippines. After intensive awareness raising in recent years, pilot projects are now beginning in different locations. At the beginning of May in Panglao, Bahol together with households and in co-operation with NGO "Feed the Children", a concept for the construction and operation of dry-toilets will be developed. In Bayawan, Negros Oriental, a constructed wetland is currently being built. Further pilot projects will be developed at other locations. The pilot phase aims to obtain experience from the introduction of ecological sanitation and to use this for implementation on a larger scale.

!!! Contact: Florian Klingel florian.klingel@gtz.de and
Andreas Kanzler andreas.kanzler@gtz.de

Vietnam: ecosan concept for a village school under development

Within framework of the GTZ-Project, Katrin Pietzsch together with DED-Vietnam (German volunteer service) and the local NGO CGFED are currently compiling ecosan concepts for a village school. Teachers and pupils, as well as the rice farmers from villages in the Nam Dinh province, south of Hanoi are also taking part intensively in the decision making process.

The goal is to ensure provision of hygienically safe sanitation facilities at the school and to facilitate the utilisation of the nutrients and organics in the wastewater in the surrounding rice fields. In addition to the technical concept, great importance has been placed on capacity building, particularly amongst the pupils.

!!! **Contact:** Florian Klingel florian.klingel@gtz.de; Reneheinrich@web.de

News from the projects ...
... other organisations

China: Asia Regional Consultation meeting for upcoming WHO guidelines on "Safe use of excreta and greywater" in Guilin

A regional consultation meeting for the upcoming WHO guidelines on the "Safe Use of Excreta and Grey Water" was held in Guilin, Guangxi, China, on the 2nd and 3rd April 2005. It was jointly organised by the Jiu San Society (China), WASTE (Netherlands) and the WHO. 14 specialists from China, Philippines, Thailand and Vietnam participated in the conference, discussing recent drafts of the guideline chapters. In the afternoon of 2nd April, the participants were invited on an ecosan field trip to three villages.

!!! **Contact:** Xu Zhe, ceepd@China.com

China: Short report from the 2005 WB-WSP-EAP Thematic Conference in Guilin

2005 WB-WSP-EAP Thematic Conference was held in Guilin, Guangxi, China, from 4th April to 6th April. The Conference is titled "Money Matters...What Else Does?", mobilising resources for sustainable sanitation and water services in east Asia to achieve the MDGs. 72 participants from China, Philippines, LAOs PDR, Cambodia, Indonesia, Vietnam and Singapore, discussed sanitation and water issues, and the financing challenge for sanitation. A lot of group activities have been carried out. A practical example of how ecosan systems (dry and biogas system) can be implemented successfully, has been showcased on a field trip to 3 villages near Guilin. Most of the international respondents agreed that the ecosan systems visited were comfortable to use and clean, as it doesn't produce any smell that would attract flies. The biogas sanitation system including organic wastes, and wastewater reuse from the kitchen for toilet flushing, was seen as a desirable solution, because it improves the overall sanitation of the house, and can be adapted to urban situations.

!!! **Contact:** Xu Zhe, ceepd@China.com

France: A "green" worm for grey water treatment in urban areas

Vermi-composting (composting with worms) is widely known – less well known is the concept of worm-filtration. The Municipality of Cambaillaux (Languedoc Roussillon Region, South of France), has purchased a pilot plant for treating its wastewater by worm-filtration. This plant known as an « ecological » one is realised within the framework of the European project "Life environment" and is a result of the co-operation between the Department of Hérault and Chile. In Europe scale, the plant of Cambaillaux is a pilot one, and operates very well, currently treating wastewater from about 500 inhabitants. For treatment, the worm species *Eisenia andrei* was chosen. This type of worm lives upon surface organic matter and can digest a quantity equaling its own weight (3 g/day).

This type of plant perfectly fits to ecosan principles and costs between 30 and 40 % lesser than a classical plant. Additionally, for 15 m³ of wastewater, an equal quantity of treated water is reclaimed that can serve for land irrigation and one litre solid waste that is an excellent compost. Thus there is no sludge discharge.

The municipality is now awaiting the authorisation of the sanitary authorities for the process to be approved. Upon approval, the process will be used to treat the wastewater of the whole Municipality.

!!! **Contact:** Christophe Naigeon naigeon.christophe@wanadoo.fr

!!! **Download:** <http://www2.gtz.de/ecosan/download/vermi-filtration.pdf>

India: SCOPE builds urine diverting dehydration toilets in South India and the Andaman Islands

The NGO SCOPE will construct 16 compost toilets during reconstruction work in tsunami hit areas in the Andaman Islands and South India. The newspaper "The Hindu" writes that this type of toilet is considered ideal, especially in places having high groundwater tables.

Under the headline "An affordable solution to sanitation problems" the newspaper reports on the visit of Jan Olof Drangert and Arno Rosmarin from the Stockholm Environmental Institute to the ecological sanitation programme being implemented over the last several years in Thanneerpandal and Kaliyapalayam near Trichi in South India. This project is undertaken by SCOPE in collaboration with the United Nations Childrens Fund, the District Rural Development Agency, WaterAid and the Dutch NGO WASTE.

!!! **Download: Article 1**

<http://www2.gtz.de/ecosan/download/SCOPE05-toilets-SouthIndia.pdf>

!!! **Download: Article 2**

<http://www2.gtz.de/ecosan/download/SCOPE05-toilets-Andaman.pdf>

!!! **Download** "Compost toilet - an ecosan initiative":

<http://www.healthemailnewsletter.org/july/Main2.htm>

!!! **Information:** <http://scopetrichy.com/sanitation2.html>

!!! **Contact:** M. Subburaman director@scopetrichy.org

Iran: ecosan exhibition in Farzanegan highschool in Tehran

The Iranian ecosan group has made an ecosan exhibition in the Farzanegan high school in Tehran. This "3rd students' scientific and practical achievements exhibition" was held from 12-14 April 2005. The main achievements of this exhibition were student's creativity and participation in scientific and practical application of study topics. The pdf-file provided for download below illustrates the exhibition. The website of the Iranian ecosan group gives useful material on ecosan in local language.

!!! **Download: Ecosan-Exhibition in Tehran**

<http://www2.gtz.de/ecosan/download/Iran05-ecosanFarzanegan.pdf>

!!! **Contact:** info@ecosan.ir

!!! **Further Information:** <http://www.ecosan.ir>

Products and links

Food from used water: reuse of grey water with "tower gardens"

One of the most innovative and user friendly ways of recycling grey water is the "tower garden". It is not a new idea and recent developments in South African are derived from what was seen in Kenya. In the Tower garden vegetables are grown in a column of soil that fills a bag. Each day the available grey water is poured into the bag and the vegetables are planted in holes cut in the sides. The results speak for themselves but like all irrigation the user must master the tricks of the trade. Nothing is as simple as it appears at first side.

The above text is drawn from Charles Crosby's "Irrigation Talk" in the "The Water Wheel" Volume January/February 2005. In the publication a precise description of how to build a "tower garden" is provided.

!!! Download:

<http://www.dwaf.gov.za/Events/WaterWeek/2005/Documents/WaterWheelJan05d.pdf>

Publications ... on the web

ecosan scenario for a conference centre and tourist resort in Kunshan, China

The Honor Power Foundation is funding the development of a master plan for Kunshan Aqua Zone (KAZ), an ecologically sustainable tourist and conference facility in China, near Shanghai. In her M. Sc. thesis submitted to the UNESCO-IHE Institute for Water Education, Delft, Dan Wang develops a first draft vision for an integrated ecosan facility and compares it with a conventional water management solution in two scenarios. The abstract states "The estimated person number is 800.000 per year at KAZ. These people would contribute to 4 tons of nitrogen per year and would utilise around 40.000 / 28.000 cubic meters water per year for scenario 1 / scenario 2 respectively. Actually, only 1.400 cubic meters freshwater is needed in ecosan scenario 2 because the storm and grey water will be recycled at KAZ. (...) moreover, a large number of valuable fertilisers will be produced in scenario 2, ..." The title of the thesis is "Applying the ecosan concept for integrated wastewater management at a new conference centre and tourist resort in Kunshan, China."

!!! Download the M. Sc. Thesis:

<http://www2.gtz.de/ecosan/download/MSc05-Wang-ChinaKunshan.pdf>

!!! Contact: Elisabeth von Munch e.vonmunch@unesco-ihe.org

Constructed wetlands as an option for Syria - a Ph.D. thesis from Abir Mohamed

The doctoral thesis of Abir Mohamed considers the construction and operation of a constructed wetland in Syria. The model installation was built with support of the GTZ, with the operation being accompanied scientifically. In the abstract is stated:

"The wastewater treatment station in HARAN AL-AWAMIED is a vertical flow bed system for about 300 m³/d housing wastewater. (...) After several experiments and also after the reed had grown well, the treatment plant finally reached an efficiency of elimination of the organic carbon compounds to approximately 85% and the elimination of phosphates up to 86%. The most important result, however, was the decrease of the pathogen germs, almost reaching drinking water quality. (...) The waste water treated in the test plant was controlled by five Syrian ministries responsible and released for irrigation in agriculture with restricted use.

The most important practical results of the pilot project can be summarized as follows:

- The treated waste water in HARAN AL-AWAMIED could be used 100 per cent for irrigation. Since treated waste water still contained sufficient nitrogen and phosphate, the soils also did not need any more additional fertilizers.

- Also the building costs of the reed bed plant were clearly less than other comparable clarifying systems.
- This kind of plant work completely autonomously and the treated waste water could be used directly at location. The residents have therefore even a great interest in the good functioning of the plant. This is different from other cases in Syria, where the waste water travelled long ways to the central technical treatment plant, leading farmers to break the pipes very often so as to use untreated waste water for irrigation.
- Another important result was the construction co-operation between the most diverse participants in financing the building and afterwards in operating the plant, which worked well notwithstanding the enormous initial difficulties and resistances.”

!!! Download the Ph.D. thesis:

<http://www2.gtz.de/ecosan/download/PhD04-Mohammed-Pflanzenkläranlage.pdf>

Sanitation and cleanliness for a healthy environment - a publication by the Hesperian Foundation, UNDP and SIDA

“Sanitation and cleanliness for a healthy environment” is the title of a booklet authored by Jeff Conant (2004) and published by the Hesperian Foundation, UNDP and SIDA.

In the preface Ingvar Andersson, Senior Water Policy Adviser, UNDP, writes: “This booklet addresses the different sanitation and hygiene needs of women and men. It gives communities information about how significant sanitation improvements can be made by better use of indigenous skills and local resources. Communities are offered a choice of affordable, safe, and environmentally sound sanitation alternatives. This booklet is designed to be an important part of the Community Water Initiative, stimulating communities to take charge of their sanitation development for a better life.”

The booklet gives very practical guidance on hygiene, education and toilet construction, including dry and urine diversion toilets.

!!! Download the publication: http://www.hesperian.org/pdf_files/Sanitation.pdf

WSSCC and EAWAG publish provisional Guideline on Household-Centred Environmental Sanitation

This new provisional Guideline, produced by the Water Supply and Sanitation Collaborative Council (WSSCC) and the Swiss Federal Institute for Aquatic Science and Technology (EAWAG), challenges conventional thinking and proposes some guiding principles as the basis for future planning and implementation of environmental sanitation services, based on the “Bellagio Principles”.

WSSCC’s Environmental Sanitation Working Group conceived the Household-Centred Environmental Sanitation (HCES), based on these principles, as they searched for approaches that are likely to reach the overall goal of water and sanitation for all.

The approach is based on a framework which balances the needs of people with those of the environment to support a healthy life on Earth. Seen as radical departure from the central planning approaches of the past, it places the household and its neighbourhood at the core of the planning process.

Since practical experience with the HCES approach is lacking, this Guideline is neither comprehensive nor final, but will be developed further on the basis of extensive field experience and feedback from the users.

Orders for hard copies of the Guideline may be addressed to Ms. Rosalie Edmar at the WSSCC Secretariat, at edmar@who.int

!!! Download the guideline from: <http://www.wsscc.org/hces>

!!! Further information: Roland.Schertenleib@eawag.ch

New upcoming events

**Netherlands: Learning Alliances for scaling up innovative approaches in the Water and Sanitation sector-Symposium
6 - 10 June 2005, Delft**

Organiser: International Water Association (IWA) and Technical University of Denmark

Learning Alliances (LA) are a series of connected structured platforms at different institutional levels, designed to break down barriers to both horizontal and vertical information sharing and thus to speed up the process of identification, adaptation, and uptake of innovations.

The Learning Alliances methodology is relatively new to the water and sanitation sector. The symposium aims to bring together practitioners and researchers involved and/or interested in:

- practical experiences with scaling up innovative approaches through Learning Alliances;
- concepts and theory on Learning Alliances and their applicability to the water and sanitation sector;
- tools and methodologies for working through Learning Alliances.

!!! Further information: <http://www.irc.nl/page/15098>

!!! Contact: learning-alliances-symposium@irc.nl

**Germany: Energy + Nature 2005, North German Energy Techniques Fair for the agriculture and Forestry
10 - 12 June 2005, Hildesheim**

Organiser: Landvolk Low Saxony und DEULA Hildesheim

The energy technique fair covers all ranges of interesting energy techniques for agriculture and forestry, from wood-distilling facilities over the cultivation from plants energy, solar energy, biogas, thermal warming to the entire wood warming system. In particular the Biogas facilities constructors and spare part suppliers should address that the IBBK Biogas Technical Group in 2005 should again align within the "Biogas-Competence Center".

During the fair there are numerous parallel meetings like the 2nd German Biogas Conference or an excursion to the North-German Biogas Facilities.

!!! Further information:

http://www.messen-profair.de/energie+natur/energie_und_natur.htm

!!! Contact: Energie+natur@messen-profair.de

**Sweden: World Water Week
21 - 27 August 2005, Stockholm**

Organiser: Stockholm International Water Institute (SIWI)

The World Water Week, which will be organised by The International Water Institute in Stockholm, is an annual meeting point for the world wide leaders in water. It covers the Stockholm Water Symposium "Drainage Basin Management - Soft and Hard Solutions in Regional Development", plenary sessions and panel discussions, scientific workshops, independently organised seminars, as well as partner meetings, exhibitions and the awarding of the Stockholm Water Prize.

As in past years, this years event includes the "Stockholm Water Week" with an interesting program with many workshops, including ecosan topics. Workshop 4 "Tailoring water and sanitation solutions to reach the Millennium development Goals" and Workshop 5 "Strate-

gies to increase resources efficiency in industrial and agricultural sector" are just as interesting as Workshop 7 "Approaches to mitigate soil and gully erosion".

Particularly interesting for ecosan friends are the seminars "Marketing Sanitation and Hygiene - How do we sell toilets like toothpaste" on Thursday 25 August and "The political economy of defecation: Tales of water and excreta "on Sunday, 21 August. The next interesting event is the ecosan excursion in Stockholm "New Sanitation Solutions in Stockholm", which takes place on 27 August.

Reduced conference fee for registration before 20 June 2005 !

Further information on the World Water Week and online registration forms can be found under:

!!! Information: <http://www.worldwaterweek.org>

!!! Contact: sympos@siwi.org

Denmark: 4th International Symposium - Anaerobic Digestion of Solid Waste (ADSW)
31 August - 2 September 2005, Copenhagen

Organiser: International Water Association (IWA) and Technical University of Denmark

The focus of the Symposium includes the improvement of the treatment of solid organic waste from households (kitchen and garden waste), restaurants, market places, food processing, forestry and farming, with higher methane yields and more efficient treatment concepts. Special emphasis will be put on waste collection and pre-treatment methods for supply of high quality raw materials and on the prerequisites for the full use of the treatment effluent as fertiliser.

The 4th International Symposium on ADSW will offer a forum for the exchange of the newest innovations and knowledge dissipation through oral and poster presentation and discussion meetings.

Important deadlines:

Deadline for registration without extra charge July 1, 2005

Deadline for Hotel booking at Conference Venue July 15, 2005

!!! Further information under: <http://www.adsw2005copenhagen.dk/>

!!! Contact: BioCentrum–Technical University of Denmark:
info@adsw2005copenhagen.dk

Ireland: World Toilet Summit 2005
26 - 29 September 2005, Belfast

Organiser: World Toilet Organization (WTO), Northern Ireland Toilet Association, Happening

Auspices: British Toilet Association (BTA), World Toilet Organization (WTO)

This will be the first major world conference devoted to toilet provision and standards ever held in the West. The conference objectives are to introduce a global 'away from home' toilet grading scheme which can be acknowledged / recognised by travellers / providers all over the world or to discuss and agree standards and management of hospital and school toilets.

In addition to the main plenary at the Waterfront Hall, manufacturers, suppliers and service companies from the washroom sector will be invited to exhibit at the concurrent 2005 World Toilet Summit Exhibition.

!!! Further information: <http://www.2005worldtoiletsummit.com/>

!!! Contact: information@2005worldtoiletsummit.com

Germany: Deutsche Tropentag 2005
10 - 13 Oktober 2005, Stuttgart-Hohenheim

Organiser: Universities of Berlin, Göttingen, Hohenheim, Bonn and Kassel, as well as the Council for Tropical and Subtropical Research (ATSAF e.V.) in cooperation with BEAF/ GTZ.

The annual Conference on Tropical and Subtropical Agricultural and Natural Resource Management (DEUTSCHER TROPENTAG, DTT) is jointly organized by the universities of Berlin, Göttingen, Hohenheim, Bonn and Kassel-Witzenhausen as well as by the Council for Tropical and Subtropical Research (ATSAF e.V) in cooperation with BEAF/ GTZ. It invites all students, Ph. D. students, scientists, extensionists, decision makers, politicians and practical farmers, interested and engaged in Agricultural Research and Rural Development in the Tropics and Subtropics to participate and to contribute.

The theme of this years Tropentag is "The Global Food & Product Chain– Dynamics, Innovations, Conflicts, Strategies and will be held on October 11 - 13, 2005, at the University of Hohenheim, Stuttgart.

Interdisciplinary presentations and discussions will focus on global challenges - to balance the production of sufficient, high quality food for an ever increasing world population and to improve livelihood, health and education of the rural population as well as reduced pressure on the environment caused by agricultural production. This meeting held in English.

!!! Further information: <http://www.tropentag.de>

!!! Contact: Prof. Dr. Klaus Becker kbecker@uni-hohenheim.de

China: 5th World Water Congress and Exhibition
10 - 14 September 2006, Beijing

Organiser: IWA China

Auspices: Ministry of Construction, P.R. China

Over four thousand delegates are expected to gather in Beijing to address water issues from a holistic point of view. The congress themes cover most areas of the global water industry, such as water resource utilisation and protection, water treatment technology and facility operation and management, water safety and health, water recycling, and sustainable utilisation, with an emphasis on the needs of developing countries.

The delegates will discuss and communicate with thousands of Chinese colleagues from the academia, industry, and government. Leading researchers and professionals will present the latest innovations in water technologies and management in the Congress, and promote their transfer to China and other countries interested.

Meanwhile, the international exhibition area will demonstrate the state-of-the-art water treatment technologies, equipments and services.

!!! Further information: <http://www.iwa-beijing2006.org/en/>

!!! Contact: The Ministry of Construction, Secretariat: iwa2006@mail.cin.gov.cn

Events reminder

Japan: **3rd IWA Leading-Edge Conference on Water and Wastewater Treatment Technologies**
6 - 8 June, 2005, Sapporo

Organiser: International Water Association (IWA)

The annual Leading-Edge Conference on Water and Wastewater Treatment Technologies is focused specifically on advances and developments in water and wastewater technologies. To keep the programme targeted and discussions meaningful, the conference consists of only two parallel sessions: one for drinking water and one for wastewater. For ecosan, topics such as "Nutrient Removal and Recovery" and "Cost Effective and Efficient Technologies for Sludge Management" might be of interest.

!!! Further Information:

<http://www.let2005.iwa-conferences.org/templates/Conferences/Sapporo/home.aspx?ObjectId=194589>

!!! Contact: let2005@iwahq.org.uk

Greece: **International Conference on Water Economics, Statistics and Finance**
8 - 10 July 2005, Rethymno, Crete

Organiser: International Water Association (IWA) & Economics Specialist Group
University of Crete, Department of Economics

An international conference is being arranged that will focus on economic, financial and statistical aspects of water and sanitation. This conference is intended to make a major contribution to the transfer of knowledge from research to practice covering the entire water cycle, ultimately influencing major policy decisions. Topics at this conference are:

- **Integrated water resources and wastewater asset management:** full cost recovery is one of the topics
- **Economics: economic evaluation of water & sanitation projects:** economics of water pollution, valuing non market benefits of improved water quality
- **Finance:** i.a. privatisation of water utilities

!!! For further information visit:

http://www.soc.uoc.gr/iwa/iwa_page.php?IWAdoc=

!!! Contact: Konstantinos P. Tsagarakis, tsagarakis@econ.soc.uoc.gr

Singapore: **1st IWA-ASPIRE Conference & Exhibition (Asia Pacific Regional Group)**
10 - 15 July 2005, Singapore

Organiser: Environmental Engineering Society Singapore and the Public Utilities Board, Singapore.

The 2005 IWA-ASPIRE Regional Conference and Exhibition in Singapore, is the combination of the Asian Waterqual Conference and the IWA-ASPAC Regional Conference & Exhibition.

The IWA-ASPIRE Conference and Exhibition forms a forum for academics, scientists, engineers, and practitioners world-wide, particularly from Asia, to address, discuss, and share their experiences in pursuit of the latest developments in the innovative technologies and managerial techniques governing water resource conservation, reclamation, and sustainability as well as water pollution control. Knowledge and comprehension of such matters will lead to the advancement of ecological and environmental conservation for our future generations.

The conference will deal with: New Vision and Strategies – Financing Water/Sewerage Projects - Human Resource Development Training, Benchmarking and Skill Competency - Diffuse (non-point) source pollution - Sewage and industrial wastewater collection, treatment, and management - Drinking water quality, treatment, and distribution - Innovative treatment technology - Instrumentation and control - Environmental remediation – Environmental sanitation and health related issues - Sludge management and disposal - Water reclamation, reuse and recycle.

!!! For further information visit: <http://www.aspire2005.org/>

!!! Contact: aspire@inmeet.com.sg

South Africa: Management of Residues Emanating from Water and Wastewater Treatment

9 - 12 August 2005, Johannesburg

Organiser: Water Institute of South Africa (WISA) and Int. Water Ass. (IWA)

The organizing committee in conjunction with the WISA Anaerobic and Sludge Management Division and the IWA Sludge Management Specialist Group invite you to participate in this international conference.

This conference will concentrate on the sustainable management of all residues emanating from treatment of water and wastewater, i.e. sludge emanating of the treatment of potable water, domestic wastewater and industrial effluents, and processes generating concentrates and brines. The conference will therefore focus on both organic and inorganic residues emanating from the treatment of water and wastewater (domestic and industrial).

Conference Theme

- Sustainable Management of Residues Emanating from Water and Wastewater Treatment.
- Management aspects: including the challenge, policies, legislation and environmental management of residues.
- Minimizing water and wastewater residues.
- Characterisation of water and wastewater residues.
- Treatment technologies: including Innovation, Dewatering, Stabilisation, and Hazardous Substances.
- Reuse, Final Disposal: including Sustainable Disposal, Changing Residues into Resource, Sustainable Management, and Product Recovery.
- Sustainable sludge management in developing countries.
- Economical aspects.
- Case Studies.

!!! Information: <http://www.iwa-wisa-2005.com>

!!! Contact: Anne Biddlecombe wisa2005conference@golder.co.za

Poland: Nutrient Management in Wastewater Treatment Processes and Recycle Streams

18 - 21 September 2005, Krakow

Organiser: LEMTECH Consulting

Auspices: International Water Association (IWA)

There is strong need for transfer of appropriate technology to the European Union (EU) accession countries and other locations where the attempt to rapidly adjust to the advanced wastewater regulations brought about a frantic search for know-how, technology, equipment and financial instruments. Faced with pressures to privatize or to accept financing-technology packages, municipalities want to make the right technical decisions and are looking for state-of-the-art technology guidance.

The aim of the IWA Specialist Conference "Nutrient Management in Wastewater Treatment Processes and Recycle Streams" (Krakow, Poland, 18-21 September 2005) is to gather the best practitioners in the field and to present the current state of knowledge in municipal wastewater treatment and discuss design and operational upgrades to biological nutrient removal (BNR) plants, to present pre-design studies, operational control strategies, modelling, kinetics and remedial measures to offset the operational and design deficiencies. Insight into the financing of the treatment plant infrastructure and available financial aid; into operator training and plant management will also be covered.

Registration starts on 15 May, 2005

!!! Information: <http://www.bnr2005.krakow.pl/>

!!! Contact: Adam Kalucki adamk@lemtech.krakow.pl

**Germany: Federal and State Conference of ATV-DVWK
21 - 22 September 2005, Potsdam**

Organiser: DWA

The annual conference of DWA in Postdam will discussed the following themes:

- Small Wastewater Treatment Plant – lasting solutions, but how?
- The Practice of Sewer Renovation
- Water Balance in the Landscape and the use of surfeac waters

!!! Information: <http://www.dwa.de>

!!! Contact: Rita Bergmann bergmann@dwa.de

**Germany: Wastewater disposal in rural area
12 – 14 October 2005, Kassel**

At the conference the following aspects of wastewater disposal in rural area will be discussed:

Legal aspect conditions, Planning and Concept, Cases and Practical Examples, Wastewater Treatment Plant (SBR, Biofilm, Membrane technologies) and alternative concepts.

The course is organised by ATV-DVWK under the title *"Rural Area from the WaWi Serial Course, Course Part L/6"*

!!! Information: <http://www.dwa.de>

!!! Contact: Rita Bergmann bergmann@dwa.de

**Pakistan: 2nd South Asian Conference on Sanitation (SACOSAN-2)
November 2005, Islamabad**

Organiser: Water Supply and Sanitation Collaborative Council (WSSCC) and Pakistan Institute for Environment-Development Action Research (PIEDAR).

The meeting, on sanitation, health and hygiene in South Asia, aims to:

- generate political commitments that prioritize sanitation and hygiene,
- strengthen leadership/advocacy for improved sanitation and hygiene in South Asia
- assess the state of sanitation and hygiene in South Asia.

Civil society in Pakistan is invited to actively participate in the conference event, and in pre and post SACOSAN activities.

!!! Contact: Ali Junaid, WASH Campaign Manager, PIEDAR, a.j.ahmad@piedar.org

Korea: **5th IWA Int. Symposium on Wastewater Reclamation and Reuse for Sustainability (WRRS)**
8 - 11 November 2005, Jeju

Organiser: Water Reuse Technology Centre (WRTC), Kwangju Inst. of Science & Technology (K-JIST), IWA

This conference aims to bring together international experts in the field of water reclamation and sustainable reuse (...). Conference Themes include:

Sustainable Technologies for Water Reuse - Advancement in wastewater Reclamation - Agricultural, Industrial and Indirect Portable Reuse - Biotechnology for Water reuse - Microbiology, Health and Risk Assessment - (...).

!!! Contact: Prof. In S. Kim (at iskim@gist.ac.kr) and Prof. Heechul Choi (at hcchoi@gist.ac.kr)

!!! For further information visit: http://env1.gist.ac.kr/~wr21/en_index.html

Mexico: **4th World Water Forum**
16 - 22 March 2006, Mexico

Organiser: World Water Council

The 4th World Water Forum will take place on March 16-22, 2006, in Mexico, following the decision that was made by the Board of Governors of the Council in September 2003.

The objective of the 4th Forum is to come up with concrete measures and indicators that will create the enabling environment to boost progress on the achievement of the Millennium Development Goals.

Over the years, the Forum has led the movement from the World Water Vision, a product of the 2nd Forum, to the establishment of concrete actions and commitments derived from the 3rd Forum. Now, the challenge is to establish mechanisms of cooperation and coordination to transform a global vision into local concrete actions that integrate local knowledge.

!!! Info: http://www.worldwatercouncil.org/forum_4.shtml

Australia: **Incorporation of 7th International Conference on Urban Drainage Modelling & 4th International Conference on Water Sensitive Urban Design**
2 - 7 April 2006, Melbourne

Organizer: Institute for Sustainable Water Resources, Monash University, Melbourne, Australia

This conference will deal with two highly topical issues in management of Urban Water; modelling of urban drainage systems and the interfaces to other parts of urban water cycle. current achievements and problems in Water Sensitive Urban Design (WSUD), also known as Low Impact Development Design.

It will follow on the six past international gatherings on Urban Drainage Modelling (UDM), and highly successful international WSUD conferences traditionally held in Australia.

Important deadlines:

receipt of final papers: 05 August 2005
notification of acceptance: 14 October 2005
edited papers for publication and presentation: 23 December 2005

!!! For further information visit: <http://www.icms.com.au/UDMandWSUD/>

!!! Contact: UDMandWSUD@icms.com.au

Marocco: Integrated Water Resources Management and Challenges of the Sustainable Development
23 - 25 Mai 2006, Marrakesch

Organiser: The Moroccan Committee of the International Association of Hydrogeologists (IAH)

This congress will be a unique occasion for the different specialists in the field of water resources management (researchers, decision makers, planners, laboratorians, contractors, engineers and designers, etc.) to present and exchange information about the last developments in their works regarding integrated water resources management.

Topics of the conference:

- Tools and technologies applied to the integrated management of water resources
- Impact of climatic changes, new hydraulic structures and socio-economic development on water resources
- Quantitative and qualitative aspects of the integrated and sustainable water resources management

!!! Information:

http://webserver.lih.rwth-aachen.de/lih/content/e1864/e1865/index_ger.html

!!! Contact: gire3d@ucam.ac.ma

Links and Tips

Links on the GTZ ecosan-Homepage

You'll find an extensive list of interesting links on our homepage at:

<http://www2.gtz.de/ecosan/english/links.htm>

We would greatly appreciate your calling our attention to additional links of interest:

ecosan@gtz.de

Virus information

Sometimes viruses steal our addresses from other computers and use them to distribute themselves. We know, that this problem is common for e-mail addresses that have been saved by many people, but unfortunately, we cannot prevent this from happening.

We would therefore recommend that you ensure all your mails are scanned by an up-to-date virus scanner and that you do not open any obscure attachments.

Our newsletter is sent simply as text, with no attachments of any sort, instead, documents are always offered as download-links from our website. **If you do receive a mail from us with an attachment claiming to be related to the newsletter, do not open the attachment.**

Homepage

Would you like to know more about GTZ's sectoral project ecosan or about the subject in general?

If so, visit our homepage (expansion and update in progress):

<http://www2.gtz.de/ecosan/>

Newsletter

If you would like to contact the administrators of this newsletter please send an e-mail to:

owner-ecosan@mailserv.gtz.de

Your proposals for contributions to the newsletter, and any inquiries and comments you may have are always welcome.

Contact

The GTZ ecosan team:

Christine Werner, Florian Klingel, Patrick Bracken, Carola Israel

GTZ, Division 44: Infrastructure and Environment
ecosan project – ecologically and economically sustainable wastewater management and sanitation systems

Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH

p.o. box 5180

D-65726 Eschborn, Germany

Phone: ++49-6196-79-4220

Fax: ++49-6196-79-7458

christine.werner@gtz.de

florian.klingel@gtz.de

patrick.bracken@gtz.de

cariola.israel@gtz.de

Mailing list / Newsletter

- user
information

How to use the ecosan mailing list

You can interact with the Majordomo software of our mailing list server by e-mailing commands to:

majordomo@mailserv.gtz.de

Commands must be the only text in the e-mail, and not as part of the subject line! You can send several commands in one and the same e-mail message. Just be sure to start a new line for each command.

If you attach a signature block to the end of your e-mailed messages, the Majordomo software could perhaps mistake it for another command, so please enter the word "end" by itself in the line below the last command.

Useful mailing-list commands:

subscribe ecosan

Use this command to subscribe to the ecosan mailing list

subscribe ecosan your.name@xy.org

Use this command to receive the newsletter at an address other than that listed in your registration (e.g., if you send the e-mail from your workplace account, but wish to have the newsletter sent to your private e-mail address).

unsubscribe ecosan

Use this command to cancel your subscription.

unsubscribe ecosan your.name@xy.org

Use this command to de-register your receiving address, if this differs from the one from which you are currently using to send the request.

info ecosan

Use this command to request general introductory information about the ecosan mailing list.

index ecosan

Use this command to obtain a list of files sent so far via the mailing list.

get ecosan <filename>

Use this command to obtain a specific file sent via the mailing list (e.g., an archived newsletter).

help

Use this command to obtain information on how to use the Majordomo software.

end

Use this command to terminate a list of commands, e.g., especially if your mailer attaches an automatic signature.

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Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH

Dag-Hammarskjöld-Weg 1-5
P.O. Box 5180
65726 Eschborn, Germany

fon: +49 6196 79 4220
fax: +49 6196 79 7458
email: ecosan@gtz.de
internet : <http://www.gtz.de/eccosan>





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technical data sheets for ecosan components

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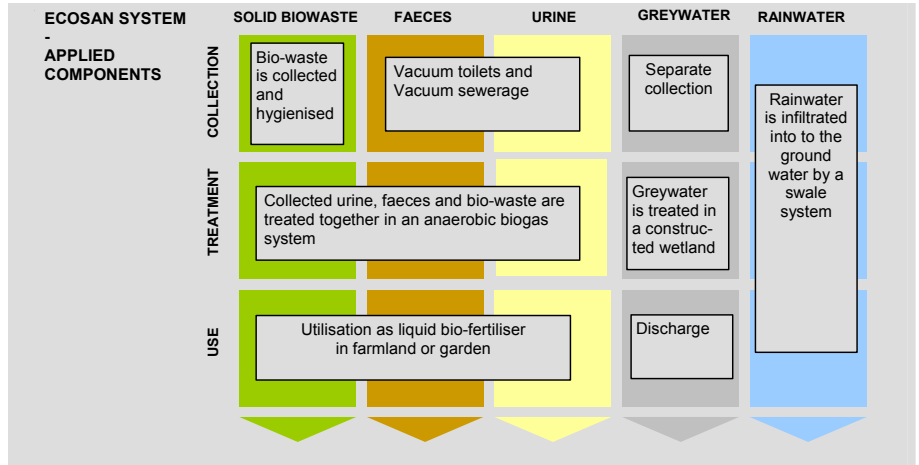
The data sheet will be available soon !!



004

**Ecological housing estate
Lübeck Flintenbreite**

Lübeck, Germany



1 General Data

Type of Project:

Urban upgrading of an ecological settlement project

Project Period:

Start of planning: 1995
Start of construction: 1999

Project Scale:

- 117 apartments in twin houses, terraced houses and blocks of flats
- appr. 350 - 380 inhabitants

Address:

Flintenbreite 4
23554 Lübeck

Planning Institution:

Otterwasser GmbH
Engelsgrube 81
23552 Lübeck

Executing Institution:

infranova GmbH & Co KG
Flintenbreite 4
23554 Lübeck

3 Location and general conditions



Figure 1: Twin houses in Flintenbreite (source: GTZ)

The settlement served as a global project of the EXPO 2000 Hanover and has attracted many visitors.

The ecological settlement is situated to the West of Lübeck and covers an area of 5,6 ha, of which 2,1 ha are left as natural green space.

It consists of 117 accommodation units in twin and terraced houses and blocks of flats with different sizes for up to 380 inhabitants.

It is planned as a nearly car-free settlement with a central parking area.

The special character of the settlement is based on a holistic ecological concept, which includes architecture, landscape planning, social cooperation, energy and sanitation.

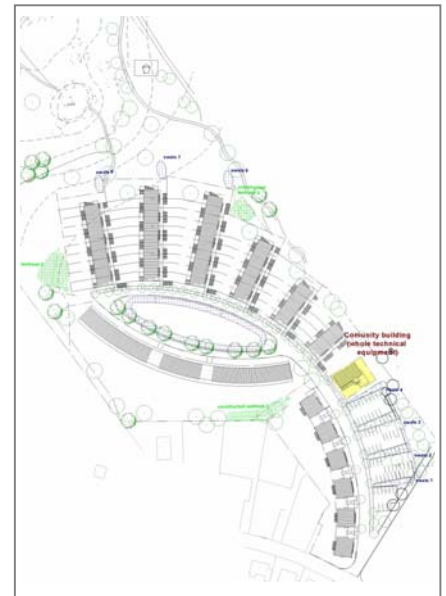


Figure 2: Location plan (source: Otterwasser)

2 Objectives of the project

To serve as a demonstration project for the German Federal Ministry of the Environment and as a pilot project for the Hansestadt Lübeck for ecological, social and economical sustainable urban development.

To ensure the consequent utilisation of ecological building materials, the use of self-sustaining, integrated energy and wastewater concepts, and the implementation of innovative energy saving technologies, with a minimisation of interference in nature, and a responsible, integrative and active cohabitation of the inhabitants.

4 Technologies applied

The settlement is not connected to the public wastewater system. The wastewater is collected and treated in an internal cycle.

The rainwater of roofs and sealed areas is collected in small gutters and infiltrated to the groundwater in decentralised swales.

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Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH

P.O. Box 5180
65726 Eschborn, Germany
fon: +49 6196 794220
fax: +49 6196 797458
e-mail: ecosan@gtz.de
internet: http://www.gtz.de/ecosan



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commissioned by:



Federal Ministry for Economic Cooperation and Development

In the households vacuum toilets with a very low water consumption (0.7 – 1.2 l per flush) are installed.



Figure 3: Vacuum toilet (source: Otterwasser)

The blackwater (faeces and urine) is transported via a vacuum sewerage system to a central anaerobic digester.

The organic waste from the kitchens is collected separately and is mixed and treated together with the blackwater, initially by thermic hygienisation.

This is followed by anaerobic digestion. The liquid residue is stored for a further stabilisation to produce an organic fertiliser. The treatment plant is still in its start up phase, as the settlement is not yet fully inhabited due to various reasons related to the real estate market.

The greywater (wastewater from the

wetlands. After a preliminary sedimentation the greywater is fed in intervals to the wetlands, constructed as vertical flow filters.



Figure 4: Constructed wetland (source: Otterwasser)

5 Type of reuse

The liquid substrate of the anaerobic digestion of blackwater and biowaste will be collected by a farming cooperative and used as an organic fertilizer.

The biogas can be used for power and heat generation for the households in a combined heat and power unit.

The treated greywater flows toward a nearby receiving water, with a portion infiltrating into the ground en route.

The stormwater is led back to the natural cycle by infiltration.



Figure 5: Gutter and swale system for stormwater (source: Otterwasser)

6 Further project components

- Houses exceed the low energy consumption- standard of the Federal State of Schleswig-Holstein.
- Adapted ventilation systems in the houses.
- Solar panels for water heating.
- Combined heat and power unit and gas fired condensing boilers cover a high rate of self-production of heat and electricity.
- Central electronic account system for energy (electricity and heat) and water consumption.
- Large central community building for all technical systems with rooms for public use and four apartments.
- Scientific supervision of the project by the Technical University Hamburg-Harburg.

7 Project history

Construction began in 1999 after the city of Lübeck approved a development plan for an ecological settlement. Unfortunately the investors for the buildings changed during the construction phase, causing delays and image problems followed by marketing difficulties. The settlement is therefore still not completely finished and the infrastructure system is not yet running at full capacity. Construction on the missing units will restart during 2005.

8 Costs

The investment costs of the complete ecological housing settlement project in Lübeck Flintenbreite are approx. € 20 Mio.

The investment for the integrated sanitation system are approx. € 600.000

Investment costs for the sanitation system are approx. 40% higher than for the common wastewater system, while operation costs are estimated to be 25% less than in conventional settle-

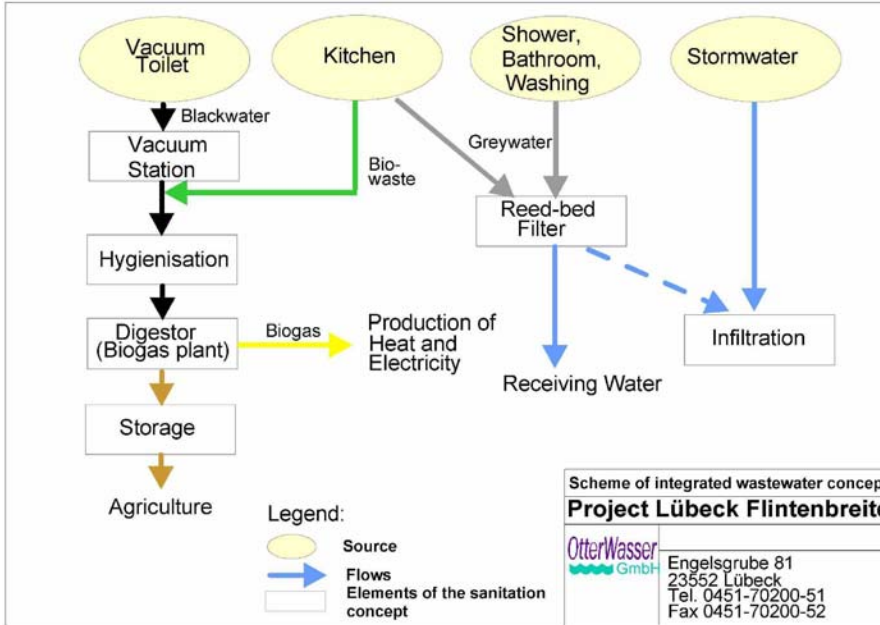


Figure 6: Mixing and hygienisation unit (source: Otterwasser)
kitchen and bathroom) is transported by gravity pipes to several constructed



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ments. This cannot yet be verified in detail, as the system is not yet fully operational.

The project was partly funded by a demonstration program of the Federal German Ministry of Environment, Nature Conservation and Nuclear Safety, The Deutsche Bundesstiftung Umwelt, has funded a program of technical and scientific monitoring of the infrastructure system.

9 Operation and maintenance

Most of the technical infrastructure systems are located in the central community building.

The operation is run by the infranova GmbH & Co. KG, which employs one person as technical staff. Yearly billing procedures with the house owners are based on the consumption of electricity, water, energy etc. The house owners are limited partners of the operating company.

10 Design information and technical specifications

- Vacuum toilets (system Roovac by Roediger)
- Vacuum canalisation of 50-65 mm diameter, laid in a sawtooth-profile in the same line with other supply media (cost saving)
- Biogas plant in mesophile operation (37°C) with preliminary hygienisation (1 hour at 70°C).
- Distribution of volume and nutrients of grey and blackwater in Flintenbreite:

Blackwater: (amount: 4.8 l/cap/d)
N: 8 g/cap.d

P: 0.8 g/cap.d
K: 0.7 g/cap.d

Greywater: (amount: 56 l/cap/d)
N: 0.8 g/cap.d
P: 0.5 g/cap.d
K: 0.2 g/cap.d

- Concentration of greywater before and after treatment in constructed wetland (in mg/l):

	before	after
COD	502	59
BOD	194	14
Total N	12	2,7
NH ₄ -N	4,5	0,9
Total P	8	5,7
PO ₄ -P	7,6	4,8

11 Practical experience and lessons learned, comments

The separation of different wastewater flows is possible for a high standard housing area of approx. 350 inhabitants with no operating problems.

As only the treated greywater is led into the receiving water body, the nutrient emission is significantly reduced by source separation compared to conventional systems.

The nutrients can instead be used as an organic fertiliser.

A relatively high load of phosphorous in the greywater is caused by washing-up liquids. Washing powder tablets in particular contain up to 30% phosphorous. The inhabitants could be convinced to use different brands, which reduce the P-load in the greywater by 15%.

The technical installations are well accepted by the inhabitants. The vacuum

system causes no loss of comfort, but a significant reduction of water consumption.

The quantities of water and air had to be adjusted during operation by the caretaker to optimise the system.

Technicians had to get used to the new technologies. The experience gained with the first units caused a significantly higher efficiency in the further realisation.

The total investment costs are higher than those for a conventional system in this case. But operating costs are estimated to be about 25% lower compared with the cost of a conventional system. Life cycle assessment shows clear cost benefits for the new system.

12 Institutions, organisations and contact persons:

OtterWasser GmbH
Engelsgrube 81
23552 Lübeck
e-Mail: info@otterwasser.de

Technical University of Hamburg – Harburg
Institute of Municipal and Industrial Wastewater Management
Eissendorfer Str. 42
21073 Hamburg

13 Available documents

www.flintenbreite.de
www.otterwasser.de

Additional information can be asked for at info@otterwasser.de

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authors: GTZ ecosan team (Christine Werner, Florian Klingel, Patrick Bracken, Jana Schlick), Martin Oldenburg

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