Closing Conference TMF project
“Tapping Resources”

Yerevan, 27 October, 2007

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WECF

Goals TMF project

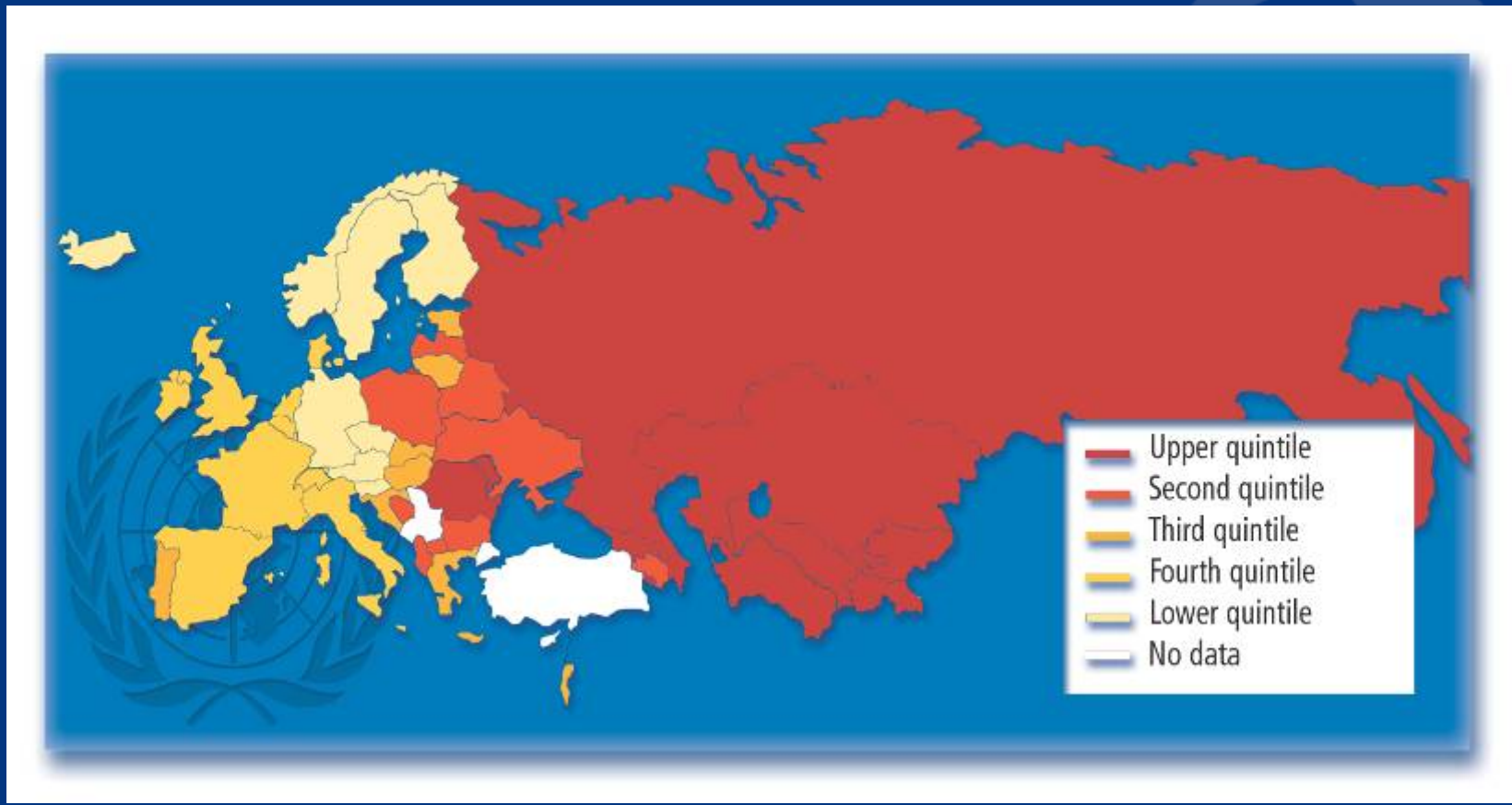
- Sustainable poverty alleviation
- Direct improvement of living conditions of people living in poverty in rural areas
- Implementation of sustainable water-, sanitation- and agricultural pilot projects
- Capacity building of civil society, improving governance
- Increasing democracy and involvement in policy development and particularly strengthening the position of women on all levels.

Contributing to the MDGs

The project contributes to the realization of Millennium Development Goals, agreed on by all heads of states in 2000

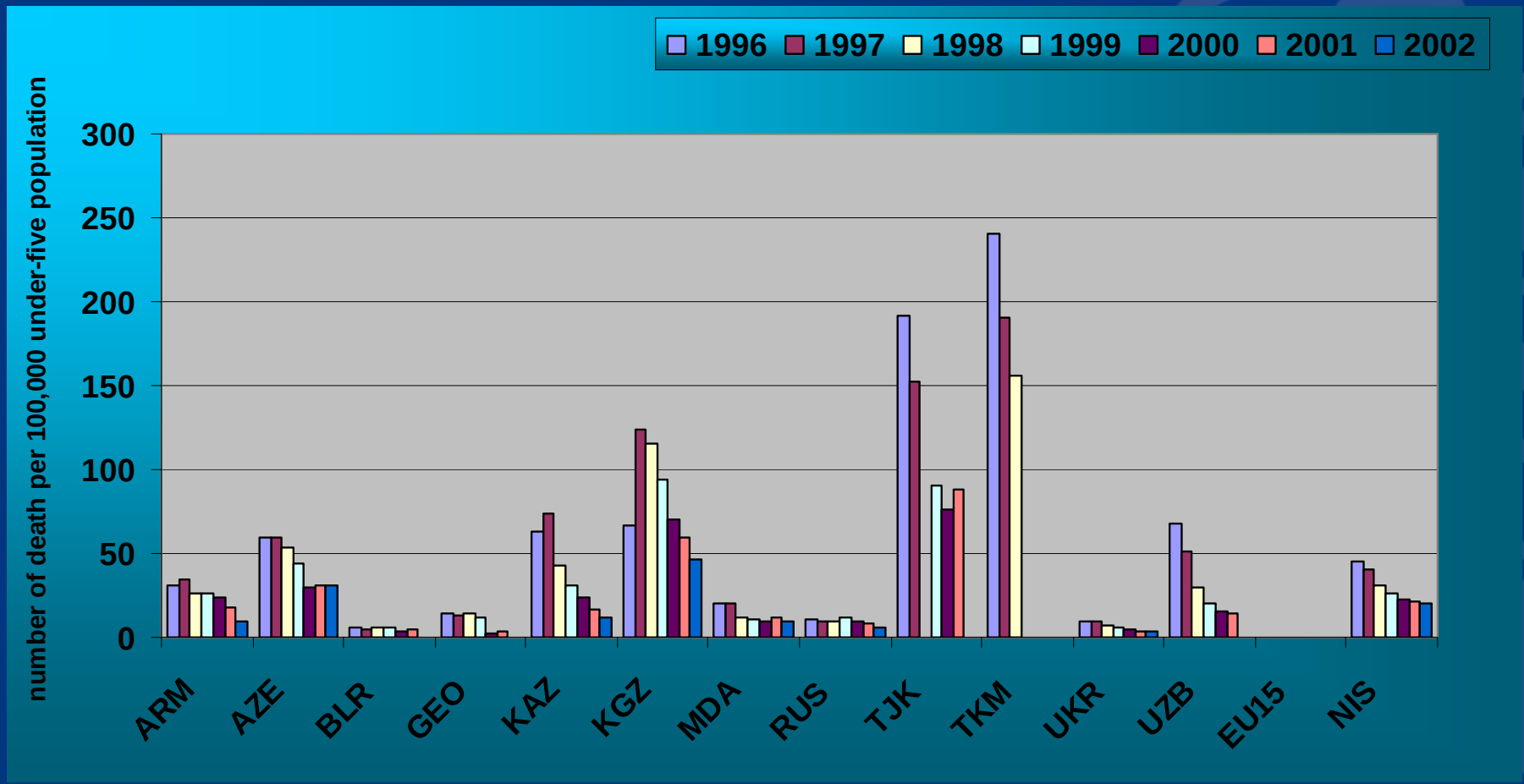
- MDG 7: environmental sustainability - access to drinking water and sanitation
- MDG 2: access to education,
- MDG 3: improving status of women
- MDG 4: reduction of child mortality
- MDG 5: improvement of maternal health

Probability of Dying Before Age 5



Source: WHO Regional Office for Europe

Under-five Mortality Rate of Diarrhoeal Diseases



Safe Sanitation in the EU and EECCA: a challenge

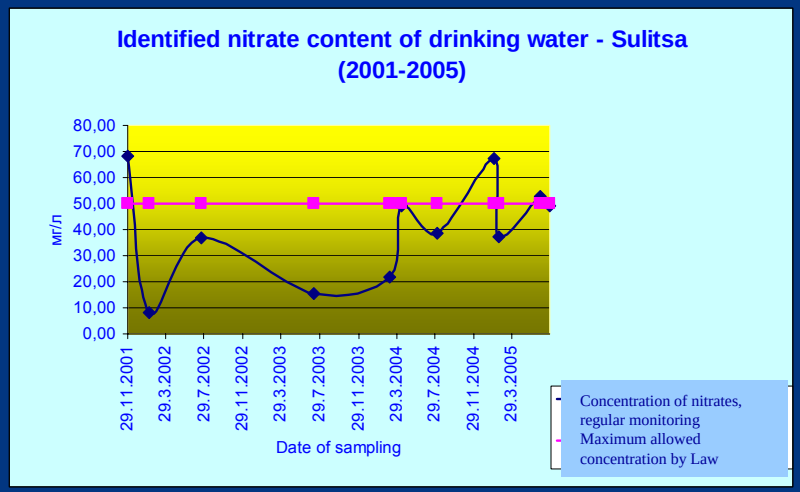
- 100 million people lack safe sanitation
- Rural areas
- High morbidity
- Pollution of ground and drinking water

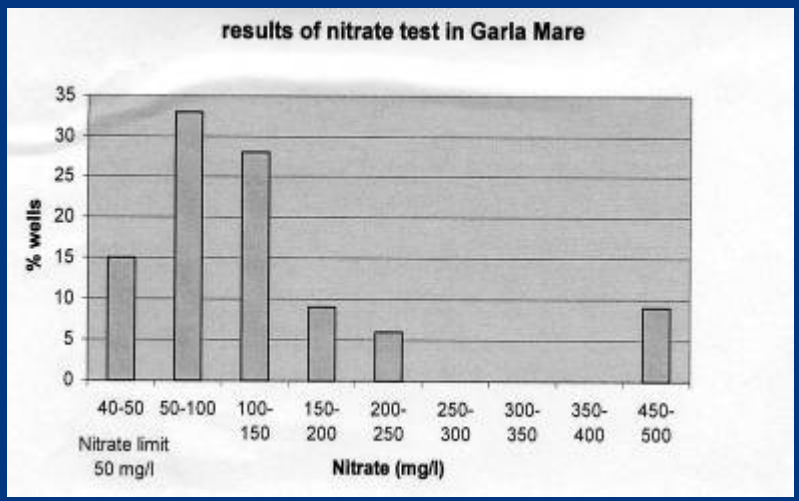
This well contains such high levels of Faecal and coli-bacteria

That acc.to EU guideline water would not even be safe for bathing

This Sipot source, Garla Mare, Romania contains the pesticide ‘atrazine’ : up to 5x the limit of the EU directive for drinkingwater

Nitrate Pollution of Drinking Water





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TMF Results Achieved

- Armenian results will be presented by AWHHE
- Aral Sea region, demonstrations:
  - 1 dry urine diverting school toilet for 200 children
  - 8 household urine diverting toilets
  - Feasibility for water supply system 2 villages
  - Demonstration organic farming
  - Health education and monitoring

TMF Results Achieved (continued)

Afghanistan:

- 60 drinking water wells for poor rural households
- 2 schools with ecosan toilets, girls and boys
- Fish farming pond, income generation

International Advocacy
World Water Forum México


México 2006
IV Foro Mundial
del Agua
CONAGUA
Acciones
locales
para un
reto global
Elke
Mülegger
Kajetan
Hetzer
Hortencia
Medina

Romania: toilets for school and town hall and for 5 families

www.wecf.org

Village Sulitsa, Bulgaria

1 Ecosan toilet in the cultural club and soil filter for the grey
2 Household toilets
1 Public toilet in the village of Stara Zagora Spa

Ukraine school toilet 350 pupils and teacher in Stepanovka, Odessa Oblast

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Gaining experiences with safe reuse of urine

- Analyses
- Trials
- Implementation

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Safe reuse of faeces

For an elimination of pathogens an adequate treatment is essential

- Storage in alkaline environment (ashes, lime)
- Composting

Why schools?

- Educational effect
- Lack of state funding for rural schools is a great problem
- Each child should have right to hygiene and safe sanitation in school

Why Ecosan?

- Improves quality of life
- Improves hygiene and health
- And although families will not built a toilet just of this reason: keeps environment and ground water clean

Ecosan and Reducing poverty

- Affordable compared to septic tanks or sewage
- Local production and employment
- Households as well as public buildings
- Produces valuable nutrients for agriculture

Challenges

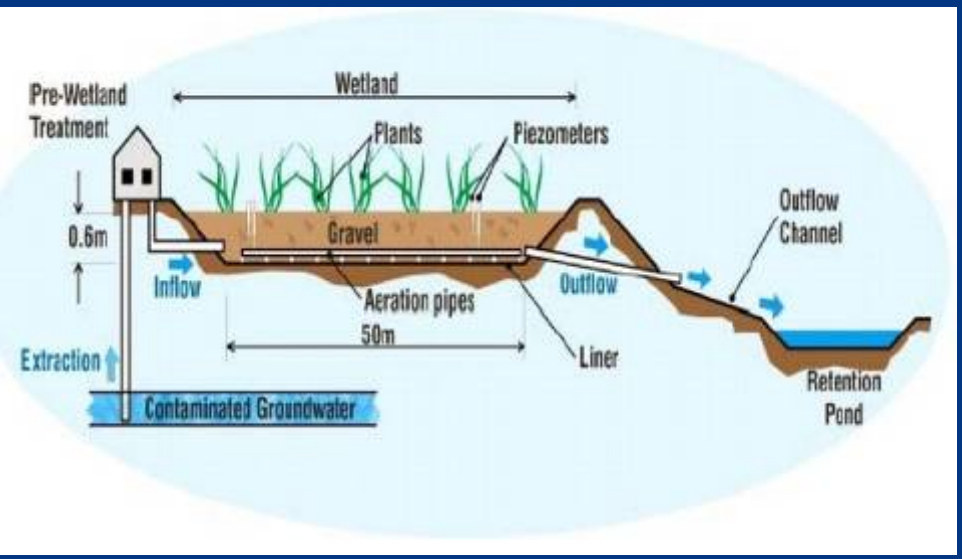
- Funding household sanitation
- Decentralized safe systems
- Local production and maintenance
- Transposing WHO guidelines on safe reuse of ecosan products

Next phase: total access for 30.000 poor people in rural areas in 12 countries

	Villages	Access housedhold	Access Public	Water Access
Starting Dec/Jan				
Kyrgyzstan	4	1,500	3,000	50
Belarus	1	500	50	50
Probable start 1.1.07				
Moldova	10	1,000	3,000	50
Georgia	5	1,625	540	50
Kazakhstan	2	180	1,000	50
Tadjikistan	1	50	216	50
Continuation				
Afghanistan	3	1,200	600	1500
Armenia	3	1,000	1,000	2000
Ukraine	7	3,500	250	50
Uzbekistan	2	1,600	250	50
Total	**38**	**12,155**	**9,906**	**3,900**

New developments next phase

Treat waste water in plant-soil filters



source: Comax International Ltd.

- treatment of wastewater or greywater
- effective in the removal of BOD, TSS, pathogen and nitrogen
- Re-use of waste water

New developments next phase

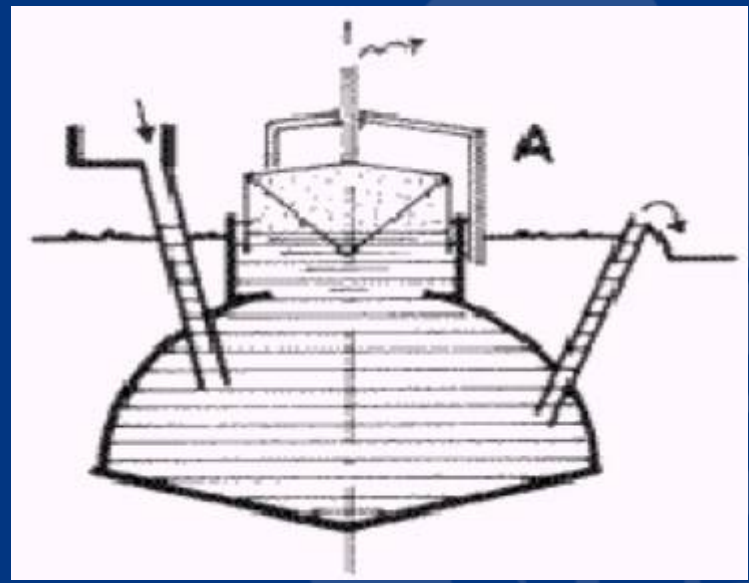
Produce biomass with waste water

source: EU Fair, 2003

- Combined wastewater treatment and bio-fuel production from willow plantations (example in Sweden)
- Cost and energy effective

New developments next phase

anaerobic treatment of faeces with biogas production



source: Petter Jenssen

- recovery of energy content (covering about 20% of cooking energy needs for a typical family in a developing country)
- energy savings in fertilizer production & wastewater treatment

Thank you!

WECF

Women in Europe for a Common Future

www.wecf.org

Relevant Ecosan Websites

- ✓ EcoSanRes Publications:
  www.ecosanres.org
  - 2004-1 Guidelines for the Safe Use of Urine and Faeces in Ecological Sanitation Systems
  - 2004-2 Guidelines on the Use of Urine and Faeces in Crop Production
  - 2004-3 Open Planning of Sanitation Systems
  - 2004-4 Introduction to Greywater Management
  - 2004-5 Norms and Attitudes Towards Ecosan and Other Sanitation Systems
  - 2005-1 Review of Sanitation Regulatory Frameworks

- ✓GTZ ecosan database
  http://www.gtz.de/en/themen/umwelt-infrastructur/wasser/9835

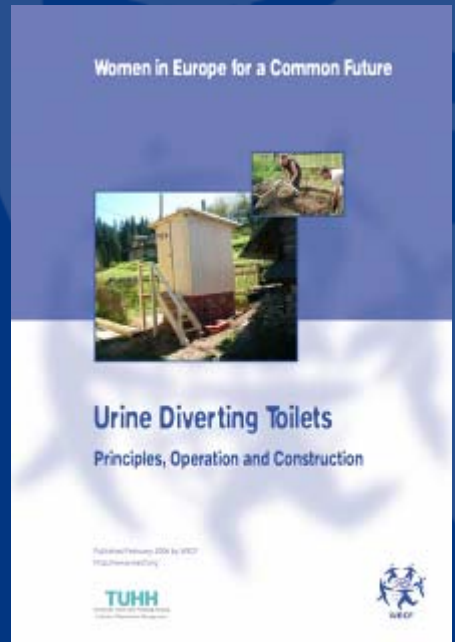
- ✓WHO guidelines for the safe use of wastewater, excreta and greywater in agriculture
  http://www.who.int/water_sanitation_health/wastewater/gsuweg4/en/index.html

WECF Ecosan Publications

To download: www.wecf.eu/publications

- ✓ Ecological Sanitation and Associated Health risks
- ✓ Reducing effects of polluted drinking water and inadequate sanitation on children's health in rural Romania
- ✓ Urine diverting toilets, principles, operation and construction
- ✓ Survey results: From pit latrine to ecological toilet

- Poster: the benefits of ecological sanitation
- Leaflet: Ecosan; a new sanitation approach
- Leaflet: Ecological Sanitation and Hygienic Considerations for Women



ecosan technologies

examples of Ecological Sanitation

urine-separating dehydration latrine

source: Aussie Austin

constructed wetlands

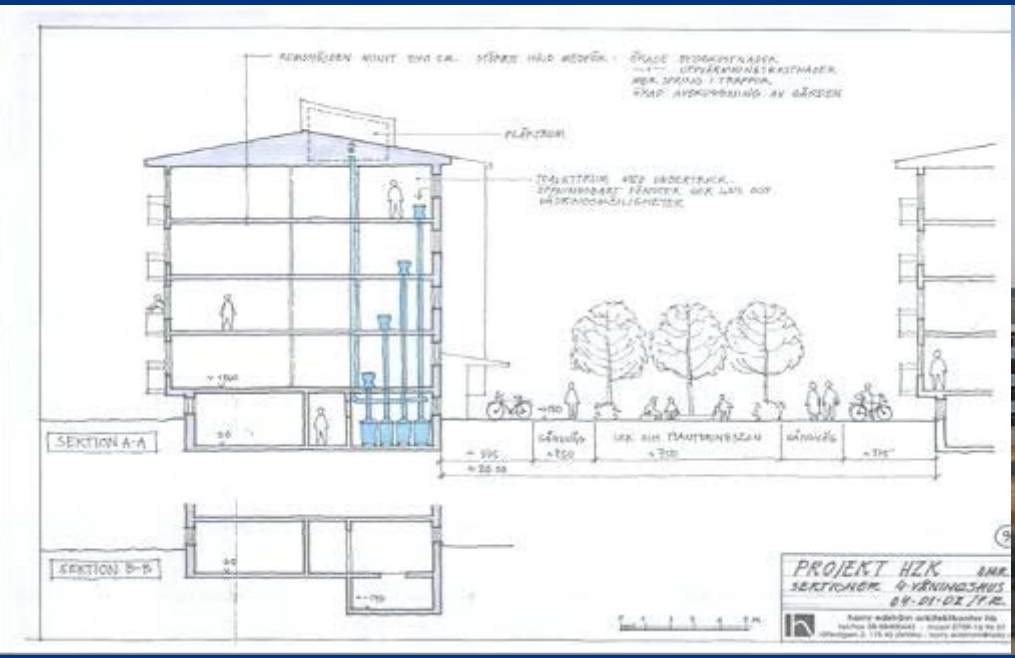
membrane technology

biogas plant

source: www.abr-w.de

China-Sweden Erdos Eco-Town Project

- Ecosan practises in an entire functionging modern town:
- Urine-diverting dry toilets and collection systems for multi-storey buildings
- Greywater collection and treated in decentrialised system
- Composted faeces and urine reused in agriculture



Source: EcosanRes, SEI

Solar City Linz, Austria

- New constructed urban setting for 3500 inhabitants
- Separate collection of urine and brownwater
- Onsite treatment of brownwater
- Agricultural reuse of urine

Urine tanks (photo: Otterwasser GmbH)

Buildings (photo: Otterwasser GmbH)

Lübeck – Flintenbreite, Germany

apartments with greywater treatment and constructed wetlands

vacuum station, sanitization tank and biogas treatment plant for the collection and treatment of diluted blackwater