

#### EU-PROGRAMME URBAN INNOVATION ACTIONS

##### «Frankfurt Clean Energy WaterCycle»

A brief project-sketch for a urban innovative action in Frankfurt, Germany for a decentral solution gaining energy and heat from blackwater of healthcare-institutions, also cleaning water of drug particles.

#### STARTING POINT

Prof. Dr. OEHLMANN, heading «*Department of Aquatic Ecotoxicology*» at the GOETHE-UNIVERSITÄT FRANKFURT reported in a national radio broadcast of DEUTSCHLANDFUNK from the second of June about the results of three-year project «*Development of a sustainable water-resource-management within the area of the urban settlement at river Nidda*», being funded by FEDERAL MINISTRY OF EDUCATION AND SCIENCE with 2.4 Million Euros. The water quality of the Nidda is currently at the lowest rate, a result also by the particles of drugs that are released into it. As EU-Programme URBAN INNOVATION ACTIONS is currently also asking for ideas within the collection and separated treatment of wastewater being released by healthcare-institutions, this could offer a useful connection to the area of Frankfurt and its water-cycle management.

#### URBAN INNOVATIVE ACTIONS

As one can read in an article titled «*Gaining Energy form Wastewater*» at the VDI CENTER FOR EFFICIENCY OF RESSOURCES and see in a video-report as well, Scientists at the UNIVERSITY OF WEIMAR have shaped an innovative approach for a decentral cleaning of blackwater from healthcare-institutions. The blackwater is collected separately, also providing a fitting technical approach for it, and being treated to gain energy and heat from a biogas-approach. By that most of the particles of drugs, being released in the water-cycle can be eliminated. Just recently also national newspaper DIE WELT reported that particles of x-ray contrast material Gadolinium can be found in drinking water, being also carried into soft-drinks later on. So actions to take appear to be a necessity. As Prof. Dr. OEHLMANN, as well as FRAUHOFFER IWKS, working on concepts of resource-cycling, national funded projekt BIOBALL of PROVADIS UNIVERSITY for material-cycling and local water-supplier HESSENWASSER are located in the region of Frankfurt, those would be possible project-partners providing a wide range of scientific knowledge and practical skills. A blackwater-system like this is already put in practice at the housing-area Jenfelder Au in Hamburg, Germany being titled «*Hamburg Water Cycle*». So assistance to this project could be also found within the work of Prof. Dr. OTTERPOHL of the TECHNICAL UNIVERSITY HAMBURG and Dr. BÜRGOW at TECHNICAL UNIVERSITY BERLIN, also providing further knowledge and experience for shaping water-cycling-approaches.

#### BENEFITS FOR THE CITY OF FRANKFURT

Beside the positive effect of shaping a more environmental friendly approach to regional water-cycles this would also provide an innovative way to gain energy and heat from blackwater. This knowledge can also be a highly useful technical-approach for shaping decentral ways for providing energy and heat in city districts. Within a concept like that the experiences of Dr. BÜRGOW from TECHNICAL UNIVERSITY BERLIN could also add a valuable path for closing rural-urban cycles for fertilizers within a regional agriculture. At present the project «*RUN*» being led by the UNIVERSITY STUTTGART shapes a real-world-laboratory for this approach within a provided funding of FEDERAL MINISTRY FOR EDUCATION AND SCIENCE.

#### BACKGROUND INFORMATION

Prof. Dr. OEHLMANN (Link: [Website](#)), FRAUHOFFER IWKS (Link: [Website](#)), BIOBALL (Link, german: [Website](#)), HESSENWASSER (Link, german: [Website](#)), VDI CENTER RESSOURCE-EFFICIENCY (Link, german: [Video](#)), HAMBURG WATER CYCLE (Link: [Website](#)), Prof. Dr. OTTERPOHL (Link: [Website](#)), Dr. BÜRGOW (Link: [Website](#)), Project RUN (Link: [Website](#))