



# Schedule for

# Biogas Compact Workshop

## Mass Dissemination of Domestic Biodigesters in Developing Countries – from Technology to National Programmes

*Biochemistry, Project Planning, Technology  
and  
Long-term experience*

**Apr. 3<sup>rd</sup> – Apr. 7<sup>th</sup>, 2013**

University of Oldenburg, Germany

**Wednesday, April 3<sup>rd</sup>**  
**Afternoon Session; BIS-Room**

## **Introduction to Plant Design of Domestic Biodigester**

- 12:45      Arrival and Registration (of external guests)
- 13:45      Welcome Address by PPRE Staff member
- 14:00      Domestic Biogas – Introduction:  
Relevance of Biogas for Development;  
Jan Lam, SNV
- 15:00 – 15:30      Coffee Break**
- 15:30      Technical Aspects of Biogas:  
Plant Types / Designs and Design Choices, Parameters ;  
Felix ter Heegde, SNV
- 17:00      Organisation of Discussion Groups during the Workshop  
Question & Answer; Moderated Discussion Day 1
- 17:30                      End of Day 1**
- 19:00                      Get together Dinner at Restaurant “Schwan”**

**Thursday, April 4<sup>th</sup>**  
**Morning Session; BIS-Room**

## **Biochemistry in Biodigesters and its Practical Implications**

- 09:00 From Biomass to Energy:  
The Biochemical Anaerobic Fermentation Process;  
Prof. Rabus, Microbiologist, Univ. Oldenburg
- 10:30 - 11:00 Coffee Break**
- 11:00 Practical Implications of the Biochemical Process plus Discussion  
Jan Lam, SNV
- 12:30 - 13:30 Working Groups**
- 13:30 - 14:30 Lunch Break & Visit to Poster**

**Thursday, April 4<sup>th</sup>**  
**Afternoon Session; BIS-Room**

## **Biodigester Construction and Sizing**

- 14:30 Video: Biodigester Construction
- 15:00 Plant Dimensioning Calculations & Participant's exercises;  
Felix ter Heegde
- 16:30 -16:50 Coffee Break**
- 16:50 Domestic Biogas Appliances: Design & Performance  
Jan Lam, SNV
- 17:50 Moderated Discussion,  
Grouping for practical sessions for Friday
- 18:30 End of Day 2**

**Friday, April 5<sup>th</sup>**  
**Morning session,**  
**Venue: Lab Facilities Campus Wechloy**  
**Bus 306, terminal bus stop**

## **Practical Sessions**

09:00 Practical Session, First Set

- Group A: Performance Testing of Biogas Stoves - Jan Lam , –  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group B Performance Testing of Biogas Stoves – Felix ter Heegde –  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group C Flow and Mixing in Biodigesters - Udo Kulschewski - Room: W2 1-187
- Group D Inspection of Students' lab Digester, Sensors, and Analysis - Tanja Behrendt –  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group E Visit to Lab Facilities of the Master Course *Postgraduate Programme Renewable Energy*;  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group F Working group; to be announced

### **10:30 Sorting break for Practical Session:**

- 10:45 Practical Session, Second Set
- Group A: Performance Testing of Biogas Stoves - Jan Lam , –  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group B Performance Testing of Biogas Stoves – Felix ter Heegde –  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group C Flow and Mixing in Biodigesters - Udo Kulschewski - Room: W2 1-187
- Group D Inspection of Students' lab Digester, Sensors, and Analysis - Tanja Behrendt –  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group E Visit to Lab Facilities of the Master Course *Postgraduate Programme Renewable Energy*;  
Location: Campus Wechloy, Building W0, Energielabor; Bus 306, Terminal Bus stop
- Group F Working group; to be announced

12:15 Return to Main Campus

**12:30 – 13:30 Lunch Break & Poster Visit**

**Friday, April 5<sup>th</sup>**  
**Afternoon session, BIS-Room**  
**Main Campus**

**Sustainable Handling of the Resource Soil:  
Feed stock to and Effluent from Biodigester result in Bio-Slurry;  
Aspects of Endangering of Soil**  
BIS-Room

- 13:30:14:00      Poster Presentation with Authors
- 14:00              Bioslurry  
Quality, Applications & Results  
Jan Lam, SNV
- 15:15 – 15:45      Coffee Break & Market Place/ Exchange of contacts**
- 15:45              Soil Fertility and its Dependency on Biomass Residues;  
Hr. Zimmer; Landesamt für Bodenkunde, Sachsen-Anhalt, requested
- 17:00              Question & Answers; Moderated Discussion

**17:30 Break for Dinner**

**19:00: EVENING PRESENTATION**  
**Venue: BIS-Room (opposite Main Library)**  
**Main Campus**

**Peak Soil**  
**The danger to soil, its availability and aspects of losses (land-grabbing)**  
**Thomas Fritz**  
**Author of “Peak Soil”**

20:30              **End of Day 3**

**Saturday, April 6<sup>th</sup>**  
**Morning Session, BIS-Room**  
**Main Campus**

## **The SNV Model: Long-term Programme for Mass Dissemination**

09:00 The SNV Model for development: Support for Independence  
Possible stakeholders and partners, administrative anchoring, formation of a local company, mason training, support activities, quality standards and control, links to research & development, long term perspectives of SNV inclusion

**10:30- - 11:00 Coffee Break**

11:00 Large Scale Domestic Biogas Dissemination: Development through the Market  
market inclusion, market conditions, programme setup, M&E (=?), D-Bases (=?),  
financing approaches/models,

**12:30 - 13:30 Working Group: Development Aid & Politics, other Working Groups**

**13:30:14:30 Lunch Break**

**Saturday, April 6<sup>th</sup>**  
**Afternoon Session; BIS Room**  
**Main Campus**

## **Biodigester for Urban Waste**

### **Global Warming**

13:30 Urban Organic Waste for Biodigesters– Biodigesters for Urban Organic Waste  
Camillo Wilches, Biogas Weser-Ems GmbH

**15:00 - 15:30 Coffee Break**

15:30 Biogas and Global Warming:  
Emission Reduction (ER) Calculations, Gold Standard Methodology, Value and  
Marketing of ERs;  
Felix ter Heegde / Jan Lam

17:00 Question & Answers; Moderated Discussion

**Sunday, April 7<sup>th</sup>**  
**Main Campus**

## **Economics & Commercialisation**

09:00 -10:30 Economic Aspects of Domestic Biogas: Financial and Economic Return Calculations,  
Subsidy Calculations and Justification  
Steven von Eye

**10:30 – 10:45 Coffee Break**

10:45 – 12:15 Commercialisation: Rationale, Framework, and Practical Implications  
Felix ter Heegde, SNV

12:15 Question & Answers; Recapitulation

**13:00 End of Workshop**