



Training Program on Sustainable Natural and Advance Technologies and Business Partnerships for Water & Wastewater Treatment, Monitoring and Safe Water Reuse in India

wfSRC- Training Session Plan

Title of the training session

Wastewater Fertiligated Short Rotation Coppice (wfSRC)

Author(s) of the training session

Prof. Nadeem Khahil, Carlos A. Arias, Ph.D., Mirko Hänel

Short description of the session

The training session, participants will dive deep into the principles, work principle, design criteria, and a real-life case study of the innovative wfSRC system. Through a complete training, discussion and a practical exercise, participants will explore the underlying principles behind the wfSRC system. They will gain in-depth knowledge of the design criteria specific to the wfSRC system, including considerations for raw or pre-treated wastewater application and treatment processes. Furthermore, participants will have the opportunity to explore a successful case study that displays the implementation of the wfSRC system, highlighting the design challenges, strategies employed, and the positive environmental outcomes achieved.

Learning objectives

At the end of this session, participants will be able to:

1. Gain a comprehensive understanding of the wfSRC system, including its components, processes, and functionality
2. Learn the design criteria, parameters, and additional requirements specific to the wfSRC system
3. Understand the selection criteria for the materials, equipment and technologies suitable for the wfSRC system
4. Learn how to effectively integrate the different components of the wfSRC system

5. Gain insight into the operational parameters, monitoring and maintenance specific to the wfSRC system
6. Learn how to evaluate the performance of the system, including sampling, analysis, and compliance requirements
7. Understand the steps involved in commissioning and starting up the wastewater treatment system

Trainer's required profile

The trainer should have an extensive knowledge and experience in water treatment, wastewater treatment and reuse, environmental engineering, land use management and fertilization as well as experience managing projects dealing with water management, biomass production and reuse concepts

Expected duration of the training session

3 hours, with a break of 15 minutes

Methodology and key contents of the session

Time	Topic	Key contents	Slides Numbers
5 min	Introduction to the session	Presentation of the instructors, learning objectives, agenda	5
10 min	Introduction to the technology (background overview, principles, performance expected, appropriateness)	Description of the system, working principle, treatment processes, general considerations, advantages	6
60 min	Design of the technology (key considerations, basic calculations, key formulas, etc.)	wfSRC design criteria, design considerations, data required	15
15 min	Break		1
20 min	Construction and/or implementation	Activities required for the construction and implementation of the system, materials and equipment	11
20 min	Operation and maintenance	O&M activities, maintenance tasks, control and follow up Costs	9 3
30 min	Example: the PAVITR pilot	Presentation of the case study	8

10 min	Homework: exercise to design/implement the technology for a case study	Practical exercise	4
10 min	Final remarks & Conclusion of the session		

Credits: this training has been created in the framework of the EU-Indian Joint Project “PAVIRT-Potential and Validation of Sustainable Natural & Advance Technologies for Water & Wastewater Treatment, Monitoring and Safe Water Reuse in India”. This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No821410 and the Department of Sciences and Technology of India under the Grant DST/IMRCD/India-EU/Water Call2/PAVITR/2018 (G). For more information, please visit: <https://pavitr.net>