



CENTRE FOR RENEWABLE AND SUSTAINABLE ENERGY STUDIES

## Bio-Energy

(Certificate of Attendance)

24 – 29 June 2019

Sustainability Institute, Lynedoch, Stellenbosch

### Synopsis

The course will consider the practical and commercial application of the various technologies for biomass conversion into bio-energy. The production of first and second generation bio-fuels, electricity and heating as the main forms of renewable energy will be covered, with an emphasis on the critical issues of sustainability, energy efficiency and commercial feasibility. The following aspects of bio-energy production will be included:

- Sustainable supply of biomass for bio-energy production
- Electricity production from biomass
- Bio-ethanol production, including substrate preparation, microbial conversion and separations
- Thermo-chemical conversions, including combustion, gasification and pyrolysis, and the use of these for green electricity production
- Biogas production, for example from landfill sites, animal dung and waste water treatment
- Biodiesel production, including process basics, product purification and waste treatment

The selection of the most appropriate technology to combine sustainable biomass supply with energy demands will be a central thread through the course. Sustainability of the value chain for the various biomass sources and conversion technologies, will be an important component of the course. The entire value chain will be considered comprehensively, partly through group work that is a key learning activity in the course.

### Who should attend

Engineers, technologists and technicians active in the energy sector. Government and local authority officials. Architects, planners and developers. Investors.

### Certification

A Certificate of Attendance with an indication of the CPD points and level will be awarded to all participants who attend the full course from Monday morning to Saturday lunchtime.

**No academic credits can be obtained by attending this course.**

### Venue and Time

This course will be presented at the Sustainability Institute, Baden Powell Drive, Lynedoch, and will run Mo-Fri, 24 – 28 June 2019 from 08:00 to 17:00 and on Saturday 29 September 2019 from 09:00 – 13:00 Directions can be obtained from: [www.sustainabilityinstitute.net](http://www.sustainabilityinstitute.net).

### Travel and accommodation

All travel arrangements are for your own account. Call the Stellenbosch Information Bureau on 021 883 3584 for accommodation near the university. You can request a list of available guesthouses from [crses@sun.ac.za](mailto:crses@sun.ac.za).

### Registration

The course is designed for a restricted number of attendees so as to personalize and maximize the learning experience. Bookings will be taken on a first come first served basis.

[Click HERE to register online](#)

**No registration is final until you have received a confirmation by email from Stellenbosch University.**

**Registrations close on Monday 10 June 2019.**

### Course Fees

- Course fee for the five and a half-day course: R10 800
- **Cancellation of enrolment made up to and including Monday 10 June 2019** will be subject to a 15% handling fee. No refunds will be made after this date; however, substitutions will be accepted. **Attendance without payment will not be permitted.**
- In the case of unforeseen circumstances, Stellenbosch University reserves the right to cancel the course, in which case all fees will be reimbursed in full.
- The course fee includes all study material, tea/coffee and lunches.

### Presenters

**Prof Johann Görgens** is a professor at the Department of Process Engineering at Stellenbosch University. He holds a PhD in Biochemical Engineering and has more than 15 years of research experience in biomass processing and bio-energy production, dealing both with technical process development/optimisation and the commercial viability of various bio-energy options.



**Prof William Stafford** is a life scientist with twenty one years of R&D experience in diverse fields of biochemistry, microbial ecology, systems biology, bioenergy, permaculture, holistic resource management, industrial ecology and sustainability science. William is a researcher in the Green Economy Solutions competency area at the Council for Scientific and Industrial Research (CSIR), and an extraordinary associate professor in the Department of Industrial Engineering at Stellenbosch University.



Centre for Renewable and Sustainable Energy Studies



Faculty of Engineering

Private Bag x1; Matieland, 7602 • South Africa  
Tel: +27 (0) 21 808 4069 Fax / Faks: +27 (0) 21 883 8513  
[crses@sun.ac.za](mailto:crses@sun.ac.za)  
<http://www.crses.sun.ac.za>