

One week training program on "Design, fabrication, operation, maintenance and performance monitoring of biomass gasifier for thermal applications"

Venue: RETREAT Gual Pahari, Gurgaon

Date: 26 – 30 June 2006

First Day	
0930 – 1000	Registration
1000 – 1015	Introductory session
1015 – 1030	Tea
1030 – 1130	Biomass <ul style="list-style-type: none"> – types, characteristics and properties
1130 – 1300	Introduction to gasifier <ul style="list-style-type: none"> – Differentiate between combustion, pyrolysis and gasification – Types, advantages and disadvantages – Operating principles
1300 – 1400	Lunch
1400 - 1440	Biomass Resource assessment
1440 –1700	Working exercise for biomass characterization <ul style="list-style-type: none"> – Proximate analysis – Calorific value (bomb calorimeter)
Second Day	
1000– 1100	Applications to biomass gasification
1100 – 1115	Tea
1115-1200	Principles of drying
1200 – 1230	Challenges for large scale applications
1230-1300	Gasifier sizing (energy audit)
1300 – 1400	Lunch
1400 – 1700	Gasifier visit <ul style="list-style-type: none"> – Demonstration – Exercise of gasifier sizing
Third Day	
1000– 1100	Designing principles of gasifier
1100 – 1115	Tea
1115-1200	QA and QC for fabrication of gasifier
1200 – 1230	Operation, maintenance and safety aspects of gasification
1230-1300	Performance evaluation of gasifier <ul style="list-style-type: none"> – Parameters to be monitored – Detailed monitoring methodology for <ul style="list-style-type: none"> ○ Gas composition (Gas chromatograph) ○ Gas quality (Tar and dust quantification)
1300 – 1400	Lunch
1400 – 1700	Gasifier visit <ul style="list-style-type: none"> – Demonstration – Exercise of gasifier sizing – Gas composition



Forth Day	
Full day	Gasifier fabrication site visit
Fifth Day	
1000-1300	Practical session on Gasifier Operation and performance monitoring
1300-1700	<ul style="list-style-type: none">- Gas composition analysis- Fuel consumption data- Efficiency measurement- Tar and dust measurement