

**Subject: PG Elective course for Environmental Science/biological science/chemistry/Agriculture**

**Course: Biomass characterization**

**Development Team**

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**Module Title :3. Opportunities and Challenges**

**Module Id : OC/OECR/3**

Pre-requisites: Photosynthesis, organic matter, agricultural residues, various sources of organic wastes.

Objectives : To study

- the biomass energy potential
- the principles of biomass energy conversion
- the primary and secondary biomass production
- the biomass feedstocks

Keywords : Organic matter, Biomass, bioenergy, agriculture residues, biomass feedstock

Learning outcome :The learners acquire the overall knowledge about the biomass, principles of biomass energy, types of biomass production as well as the various biomass feedstocks.

### **3. Opportunities**

#### **3.1 Biomass energy potential**

Nearly 50% of the world's population depends on biomass as a primary source of energy and wood biomass is a major source of energy in rural areas. Number of countries exploiting biomass for energy supply has increased rapidly in the past decade. The ability of biomass to