**Sustainable Development**: “Development which meets the needs of the present without compromising the need for the future to meet our own needs”.

**Sustainability**: “Sustainability is about making responsible decisions that will reduce your business negative impact on the environment”. It is not simply about reducing the amount of waste you produce or using less energy, but is concerned with developing processes that will lead to businesses becoming completely sustainable in the future.

**Three Spheres of Sustainability**

- **Environmental**: Natural Resource Use, Environment Management, Pollution Prevention (Air, Water, Land & Waste)
- **Social**: Standard of living, Education, Community, Equal opportunity
- **Economic**: Profit, Cost savings, Economic growth, Research & Development

**Social – Environmental**
- Environmental Justice
- Natural Resources Stewardship locally & Globally

**Environmental – Economic**
- Energy Efficiency
- Subsidies/Incentives for use of Natural Resources
Tools for Cleaner Production to Achieve Sustainability

(1) ENVIRONMENT MANAGEMENT SYSTEMS (EMS) AND STANDARDS

To encourage industry and government and other organisations to examine and monitor their environmental performance and set targets for improvement, through the broad adoption and implementation of EMS.

The benefits of an EMS which are similar to those of cleaner production are:

• minimising environmental risk liabilities;
• maximising the efficient use of resources;
• reducing waste;
• demonstrating a good corporate image;
• building awareness of environmental concern among employees;
• gaining a better understanding of the environmental impacts of business activities; and
• increasing profit, while improving environmental performance, through more efficient operations.

(2) ENVIRONMENTAL ACCOUNTING

To develop effective management accounting systems which incorporate environmental costs into traditional business financial calculations.
(3) ENVIRONMENTAL LABELLING

To assist consumers, both organisations and individuals, to make environmentally responsible product choices, by informing them of the environmental impacts of products and providing a standardised means of comparing products.

(4) LIFE CYCLE ASSESSMENT

To identify and minimise all the environmental impacts associated with a product, production process or service throughout its lifecycle.

Benefits:

- improve its understanding of products and processes
- establish a comprehensive baseline of data on a system’s performance
- compare environmental impacts and economic costs of alternative products, technologies or practices; reduce greenhouse gas emissions;
- identify points within a system’s life cycle where the greatest reduction in resource requirements and emissions can be achieved; evaluate waste management options to reduce pollution and waste management costs, and guide the development of new products with lower environmental impacts and cost benefits; and redesign products to reduce their material intensity.
(5) CLEANER PRODUCTION TRAINING

To ensure cleaner production training is available, relevant and consistent across all sectors and levels of industry, for all levels of staff.

Training providers work with industry and professional associations to incorporate cleaner production training into academic, professional and vocational courses.

(6) DESIGN FOR THE ENVIRONMENT
To encourage product manufacturers to redesign products to reduce their environmental impact. Known as ‘design for the environment’ (DFE), or ‘ecodesign’ this approach examines a product’s entire lifecycle and proposes changes to how the product is designed to minimize its environmental impact during its lifetime. These impacts are reduced by adopting the following strategies:

- **Raw materials**
  - Design for resource conservation

- **Manufacturing**
  - Design for cleaner production

- **Use**
  - Design for energy efficiency
  - Design for water conservation
  - Design for minimal consumption
  - Design for low-impact use
  - Design for service and repair

- **End of life**
  - Design for re-use
  - Design for re-manufacture
  - Design for disassembly
  - Design for recycling
  - Design for safe disposal

- **Distribution**
  - Design for efficient distribution
Cleaner Production is a preventive, company-specific environmental protection initiative, intended to minimize waste and emissions and maximize product output and sustainability.

- Cleaner Production provides a practical way of moving towards sustainable development.
- Cleaner Production allows the producers of goods and the providers of services to produce more with less-less raw material, less energy, less waste, and thus, less environmental impact and greater sustainability.
- Cleaner Production is the step beyond waste management – it deals with the source of the problem, rather than the symptoms.
- “Cleaner Production primarily supports the long term objective of Sustainable Development”

Cleaner Production

It is a Preventive Integrated Environmental Policy applied to the entire Production and service cycle

Products: Reduction of waste through better design & Use of waste for new products

Processes: Conservation of raw materials, energy and water

- Reduction of emission at source
- Evaluation of technology option
- Reduction of costs and risks

Impacts: Improved efficiency, Better environmental performance & Increase competitive advantage

Services: Efficient environmental management and design in and delivery

Towards Sustainability

“Prevention is Better than Cure”