Unit 301: Understand the fundamental principles and requirements of environmental technology systems

# Worksheet 7: Micro-hydro

Using your notes and the internet (refer to Resource 1, ‘Micro-renewable energies’) answer the following questions:

|  |  |
| --- | --- |
| 1. | In small groups and using the internet, discuss the planning requirements, including Building for micro-hydro systems. |
|  |  |

|  |  |  |
| --- | --- | --- |
| 2. | A micro‑hydro system has a flow rate of 30 litres/second passing through the turbine fed from an effective head of 7 metres. The effective efficiency of the turbine is 65%.  Calculate the mechanical power produced at the turbine shaft.  Calculate the electrical power generated if the electrical generator has an efficiency of 60%. | |
|  | a) |  |
|  | b) |  |

|  |  |
| --- | --- |
| 3. | What is the purpose of the ‘forebay tank’ in a micro-hydro system? |
|  |  |

|  |  |
| --- | --- |
| 4. | List **six** advantages of micro-hydro systems. |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| 5. | List **five** disadvantages of micro-hydro systems. |
|  |  | |
|  |  | |
|  |  | |
|  |  | |
|  |  | |