HYDROELECTRIC

INFORMATION

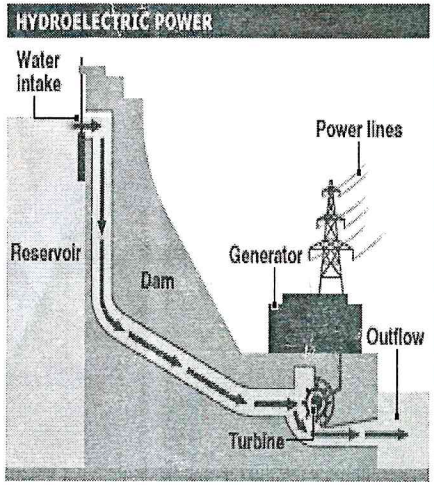

Photo Credit: BBC News

Hydroelectric energy is the production of electricity from moving or falling water.

Usually, a dam is constructed to hold back water at a higher elevation in a basin or lake. This stored water has stored potential energy. When the demand for electricity increases, the water is released. The falling water moves through a penstock (trough or hole) in the dam and turns a turbine. The turbine spins a generator that produces electricity.

There are many hydroelectric dams scattered throughout Michigan's Upper and Lower Peninsula. It is the most commonly used renewable energy resource for generating electricity in the state.

ADVANTAGES/USES

- Continuous water supply in some locations.
- Does not produce air pollution.
- Is often the most efficient way to generate large amounts of electricity
- Does not produce carbon dioxide or other greenhouse gases that contribute to climate change.
- When used in conjunction with dams, it can have other positive economic effects like flood control, irrigation, and recreation.
- Reservoirs store precipitation that occurs in the rainy season for subsequent use in dry seasons.

DISADVANTAGES/LIMITS

- Dam design and placement can change natural course of rivers.
- Dams and their water intakes sometimes kill fish or prevent migration to spawning grounds.
- Negative impact on river habitat and sedimentation that impacts fish reproduction.
- Changes in natural water levels impact plants and animals both upstream and downstream.
- Is limited to sites with significant water and substantial elevation differences or rate of flow.

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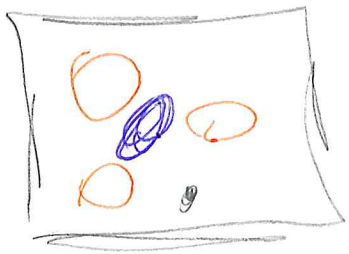

Modified from information obtained from Michigan Environmental Education Curriculum Support (MEECS) Energy Cards