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What is Renewable Energy?

- natural energy
- unlimited supply

# Renewable Energy vs. Alternative Energy

renewable = natural source

alternative = any source

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# Benefits of Renewable Energy

jobs and economy

environmental benefits

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stability

energy for our children's  
children's children

area power supply (KPHS)

- run-of-the-river hydroelectricity systems -harness energy **without** large reservoirs

### In the Philippines...

- multipurpose hydroelectric power system strategy in designing

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## SAN ROQUE DAM

- capacity of 85 MW
- surplus power that reduces dependence on imported fuel oil
- lowers the variable operating expenses of other power plants
- offers substantial power benefits



# Hydroelectric Power

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- flowing water creates energy
- common types: **dam on a river** to store water in a reservoir
- micro hydro systems - used in water rich areas as a remote-area power supply (RAPS)
- run-of-the-river hydroelectricity systems -harness energy **without** large reservoirs



c power system strategy

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## Advantages

- the Philippines is rich in water



*In the Philippines...*

CEPALCO'S 1MWP PHOTOVOLTAIC POWER PLANT

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- Cagayan de Oro

- 6,500 solar panels and set on a 2 hectares of land

- ability to supply the energy requirement of not less than 900 CEPALCO residential consumers

- capacity to produce not less than 14,000,000 kWh electricity per year



- photovoltaics (P V) - method of generating electrical power
  - converts solar radiation into direct current electricity
  - uses semiconductors that exhibit the photovoltaic effect

## Advantages

- Philippines' location and being tropical
- inexhaustible fuel source
- no pollution
- often an excellent supplement to other renewable sources
- versatile

## Disadvantages

- very diffuse source = low energy production
  - large number of solar panels
  - large land areas
- limited to only areas with lots of sunlight

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