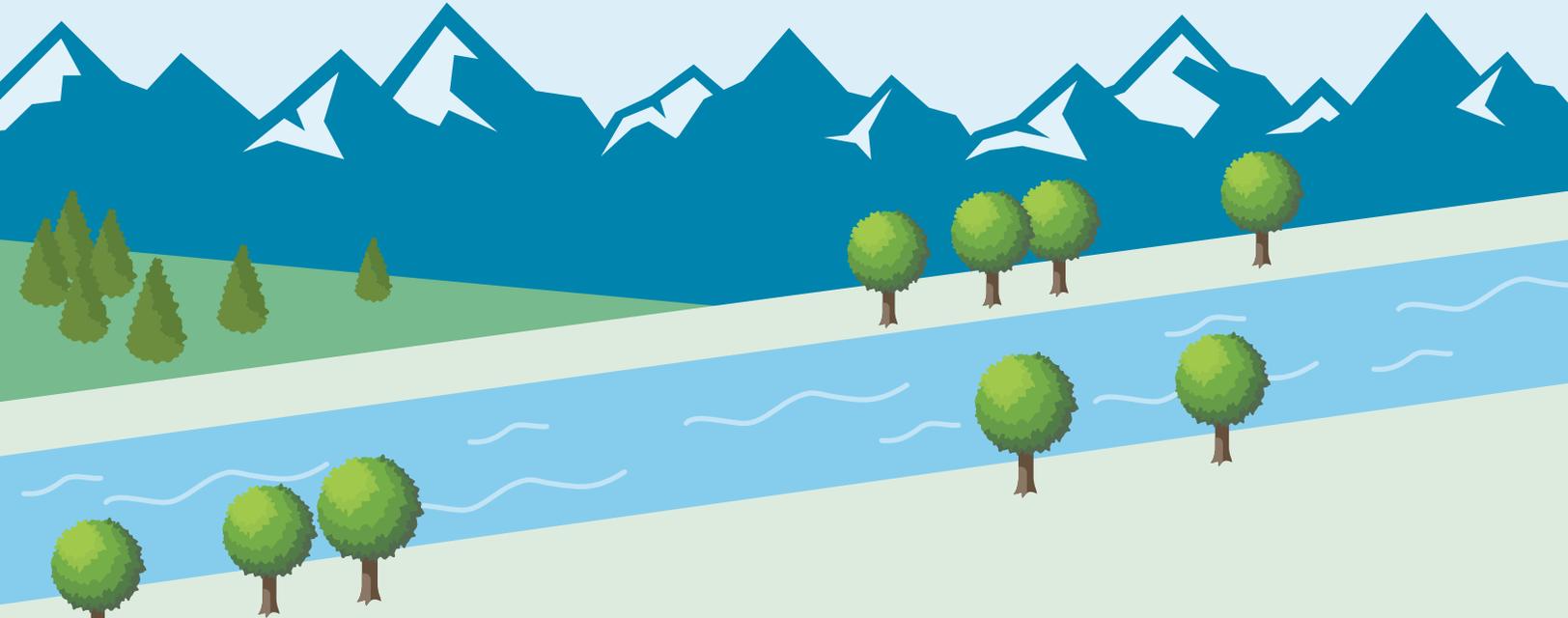




# FACT SHEET | Small Hydropower— Project Site Assessment



The first step in developing a small hydropower project is completion of a site assessment, which requires gathering the following information:

- ▶ **Water Source:** What is the quantity (e.g. in gallons-per-minute) of water flow available at the proposed site? Is it consistent year-round or does it vary according to season?
- ▶ **Pressure available:** What is the pressure available (e.g. in PSI) for hydropower generation? Is it consistent or does it vary with seasonal variation in flow rates?
- ▶ **Physical space available for turbine/generator installation:** Is there space available within an existing building or underground vault for installation of hydropower equipment? Is there space available to construct a new powerhouse building?
- ▶ **Utility Interconnection:** How far is it to the nearest available electrical meter and/or powerline that could be used for utility interconnection?
- ▶ **Utility payment:** What kind of payment terms are available from the local utility for the sale of electricity? Is there an existing on-site load which the hydropower generator can offset with net metering? If there is an existing local load, how much is currently being paid per kilowatt-hour? Is the existing utility tariff energy only or is it based on both energy (kWh) and demand (kW)?
- ▶ **Road Access:** Is there adequate road access to the project site?
- ▶ **Community or Environmental Issues:** Are there any community or environmental issues (noise, visual impacts) that may affect community perception of the project?





The information gathered during the site assessment can be used to estimate expected energy generation capacity (kW) and annual electricity generation (kWh) according to the following formula:

$$\text{Power (kW)} = \text{Flow (cfs)} * \text{Pressure drop (ft)} \div 15$$

$$\text{Energy (kWh)} = \text{Power (kW)} * \text{Capacity Factor (\%)} * 8,760 \text{ hours}$$

If the site assessment concludes that a proposed project site is likely to be technically and economically feasible, the next step is a feasibility assessment.

## Additional Information

See the Colorado Energy Office Small Hydropower webpage at [www.colorado.gov/pacific/energyoffice/hydropower](http://www.colorado.gov/pacific/energyoffice/hydropower)

See the *Colorado Small Hydropower Handbook*, available at [www.colorado.gov/pacific/energyoffice/atom/32666](http://www.colorado.gov/pacific/energyoffice/atom/32666)

For municipal projects:  
Samantha Reifer  
Colorado Energy Office  
303-866-2418  
[sammy.reifer@state.co.us](mailto:sammy.reifer@state.co.us)

For agricultural projects:  
Sam Anderson  
Colorado Department of Agriculture  
303-869-9044  
[sam.anderson@state.co.us](mailto:sam.anderson@state.co.us)