1. **PROJECT MOTIVATION**

Coal energy production is declining in the United States due to the increasing cost-competitiveness of natural gas and renewable energy sources. Stringent environmental regulations enacted in recent years have also contributed to this trend. Importantly, coal energy production requires a significant amount of freshwater for operations, specifically cooling.

InstreamImpact spent the last year exploring the potential for our client, The Nature Conservancy (TNC), to reallocate water from retiring coal plants back to the environment—where it is often needed the most.

2. **OUR APPROACH**

- **Identify Assets Owned by the Coal Plant**
  Compile site-specific data on water withdrawals and consumption for energy production processes, and evaluate existing storage and diversion infrastructure.

- **Analyze How TNC Ownership of Assets Can Benefit the Environment**
  Determine the magnitude of increased streamflow and identify the potential impact of the additional water on local plant and animal species.

- **Understand TNC’s Options for Acquiring the Assets**
  Compare the implications of acquiring water rights under two financing strategies: (1) donations and grants, and (2) impact investing, in which a portion of the water is leased to other users to generate a return for investors.

3. **COLETO CREEK CASE STUDY**

The approach was used to analyze Coleto Creek Power Plant, a coal plant in southeast Texas, which has a generating capacity of 650 MW. While the power plant does not have a scheduled retirement date, TNC is interested in the plant's water right because of its proximity to San Antonio Bay and the Aransas National Wildlife Refuge (ANWR), which is the wintering habitat of the highly endangered whooping crane (Grus americana) population.

The approach included:
1. Identifying and analyzing the plant's physical characteristics and water consumption patterns.
2. Developing an approach to identify potential water rights that could benefit the environment and could be acquired through impact financing.
3. Applying the approach to Cotato Creek and creating a guidance document for TNC and other interested stakeholders.

4. **CONCLUSION**

For TNC, the most important assets owned by the coal plant include:
1. The right to consume a large proportion of the total amount of water diverted from nearby streams or rivers.
2. The infrastructure to store water, such as a reservoir or cooling pond.

To maximize environmental benefits, TNC should prioritize coal plants that:
1. Are in close proximity to an endangered plant or animal species.
2. Divert water from a smaller tributary rather than a main river.

5. **NEXT STEPS**

We recommend that TNC consider the following in future acquisition opportunities:
1. Impacts of altering coal plant infrastructure, such as removing dams or water diversion impediments.
2. Improvements in water quality that may result from the reallocation of water back to the environment.
3. Partnerships with energy companies that seek to donate their assets as a way to finance plant closures.
4. Potential to capitalize on marginal water savings in cases of conversion to natural gas facilities.

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