UNTAPPED: HOW REGULATION STIFLES SMALL HYDROPOWER DEVELOPMENT

STRATA

This report examines the energy potential of small hydropower (small hydro), regulatory obstacles to its development, and potential policy changes that could increase its use. "Hydropower" will be used to refer to hydropower of all sizes, whereas "small hydro" will be used to refer to hydropower facilities that generate up to 30 megawatts of electricity. In today's energy debate, there is pressure from both the public and lawmakers to produce more electricity from renewables. Despite this increased attention on renewables, public attention and funding is usually directed towards solar and wind rather than other sources of renewable energy.

Hydropower has been the largest component of the United States's renewable energy portfolio for over a century. In 2015 alone, hydropower accounted for six percent of total electricity generation in the U.S. and 46 percent of all renewable energy generation. Hydropower is a clean and reliable energy source. Despite recent pushes for increased renewable energy in the U.S., however, hydropower electricity generation has leveled off while other renewables are continuing to produce more electricity.

Small hydro has the potential to provide significant amounts of renewable energy without substantial environmental impacts. A stringent licensing process, however, has limited investment in new small hydro capacity. In many cases, these regulations were originally geared towards larger hydropower projects with more significant environmental impacts. An unintended consequence of such regulations is that they have prohibited the expansion of environmentally friendly small hydro projects.

The licensing process for hydropower is a maze of exemptions, applications, and certifications. This long and burdensome process, shown in Figure 1, can often make projects prohibitively costly and time-consuming. Hydropower is the only renewable energy source that is licensed at the federal level, and excessive federal regulations discourage investment across all states.

Many recent attempts to reform hydropower's regulatory environment have focused on offering exemptions, alternative processes, and incentives to the licensing process. These attempts for reform may be unnecessary if the licensing process for small hydro as a whole were made less restrictive.

Some suggested policy changes that may help increase the amount of electricity from hydropower include, from simplest to most difficult:

Reduce the amount of time allocated for public review to shorten the development timeline.

Public review may be unnecessary for many small hydro projects with no environmental impacts. Removing or reducing the amount of public review would help streamline the licensing process and encourage more development.

Remove the need for identical studies to be completed by multiple agencies.

Removing identical and overlapping studies would save time and money for developers and utility customers, and would make hydropower a better investment.

Simplify the licensing process for retrofitting existing dams and conduits with small hydro when the environmental impacts are negligible.

Many small hydro projects use man-made water infrastructure with no environmental impacts, or existing dams that have already made an impact. Adding a small hydro project to these existing waterways would not create significant impacts to the environment.

Give states more control over the licensing process for small projects.

Handing licensing back to the states would allow for a more efficient process with the states overseeing everything before sending applications to the Federal Energy Regulatory Commission.

Comprehensively reform the current licensing process to create a new, more streamlined licensing process that is less intensive, especially for small hydro projects.

A complete overhaul of the licensing process would help promote more renewable energy production by simplifying the requirements to construct a small hydro project. If the licensing process is adequately simplified, there may be a substantial increase in the number of new small hydro projects.

These recommendations are all feasible, but some would require much more time and effort to implement than others. Many requirements, including environmental reviews and opportunities for public comment, are required by Congress, which would require another act of Congress to remove.

Small hydro can help the United States generate clean, reliable, and inexpensive electricity. Over-regulation and a complex licensing process make utilizing small hydro prohibitively costly. Streamlining the licensing process would help encourage more small hydro development and provide enough renewable energy to power millions more American homes.

Small hydro potential goes untapped due to a complex and costly licensing process.

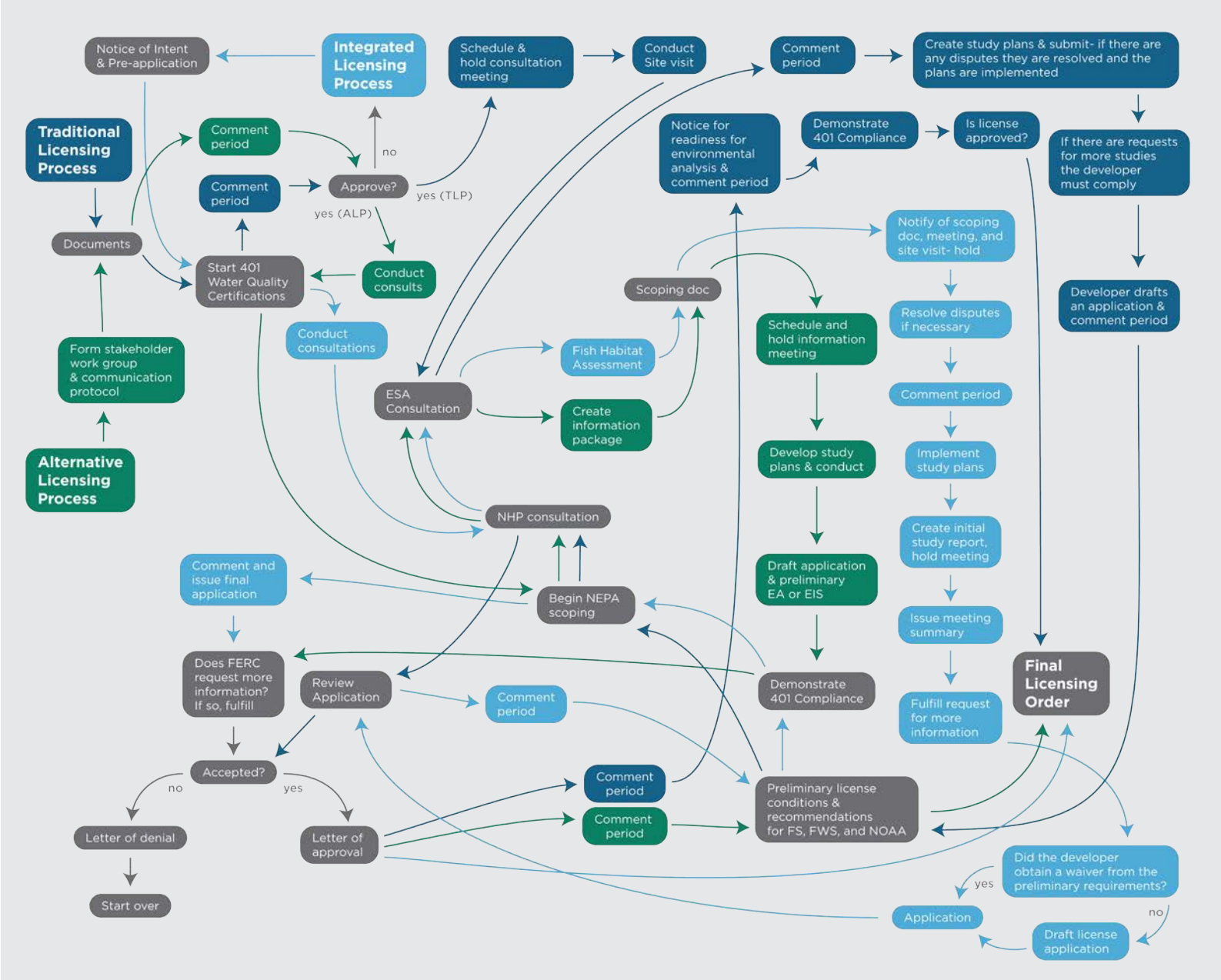

Figure 1: FERC Licensing Requirements for Hydropower Projects

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