



State Requirements For Decommissioning End-Stage Renewable Energy Projects

What Project Participants Need to Know

INTRODUCTION

The first utility scale wind and solar power projects in the United States were developed in the early 1980s. As early-generation renewable projects reach the end of their useful lives and as new projects are being developed, owners, developers, and other project participants must consider whether to decommission, repower, or redevelop their projects. When the decision is to decommission the project, there are an increasing number of state laws and regulations that will apply. As such, project participants must consider:

- What are the existing regulatory requirements?
- What permits, approvals, or exemptions are needed?¹
- What are the regulatory risks and how best to plan for them?
- What regulatory and practical difficulties might arise in the absence of clear regulatory or industry guidance?

In recent years, state legislatures have begun to impose specific decommissioning requirements for existing and new renewable energy facilities, such as bonding requirements, to ensure the responsible decommissioning of these facilities. These requirements have the potential to affect participants at both ends of the project lifecycle.

This report provides an overview of each state's requirements. Although this information is primarily applicable to owners and developers of new and legacy assets, it also strives to illuminate opportunities for partnership across research, industry, and government. As one of the first legal analyses of its kind, the report provides renewable energy industry participants with the context needed to avoid costly missteps while also reaping all potential rewards of end-of-life planning.





ABOUT LEWIS ROCA

Lewis Roca's Renewable Energy End-of-Life Planning Group, launched in late 2021, helps project developers, landowners, and state and local governments navigate the hurdles that abound in this largely unmapped terrain. Our lawyers draw on extensive experience in the energy and utilities sector to advise on a broad spectrum of regulatory, business, litigation, and intellectual property issues, from facility permitting and planning to contract management and government relations. As one of the only law firms in the country with a practice group dedicated to this emerging market, we are uniquely positioned to chart a successful path forward for clients that seek to minimize risk while maximizing their investments.

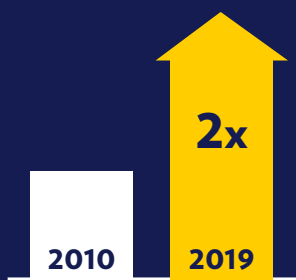
RENEWABLE ENERGY STATS

Renewables Will Generate

60%

of The World's Electricity by 2035

– McKinsey



Global Renewable Energy Power Capacity

– International Renewable Energy Agency

BACKGROUND

The past decade has seen a rapid acceleration in the development of renewable energy projects precipitated by several factors including: federal and state energy policies, favorable tax credits and incentives, declining costs of solar and wind energy systems, and rising public demand for green energy in response to global climate concerns. According to the International Renewable Energy Agency, global renewable energy power capacity more than doubled between 2010 and 2019,² while McKinsey predicts that renewables will generate 60 percent of the world's electricity by 2035.³ The Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022 will provide billions of dollars in incentives for the development of renewable energy projects.

“No longer merely a game for small regional players, renewables are now the domain of federal governments and major corporations—a shift that is poised to reshape the geopolitical map as we know it.”



With legislative momentum around clean power generation and net-zero emissions policies swiftly mounting, more and more wind and solar energy facilities are being built across the United States every year. As the technology used to power these facilities becomes more efficient, previous generations of technology begin to face a new problem: obsolescence. For example, the average capacity of a wind turbine in 2021 was 3 MW which is a 319 percent increase from 1998-1999. At the same time, the performance of older wind power projects declines with age as compared to newer projects. These technological developments, combined with the need to maximize the output from locations with high wind and solar energy potential, create additional incentives to decommission older projects and replace them with newer technologies.

Accordingly, cohesive public policy and industry practices are needed to address the eventual disposition of obsolete solar panels, wind turbines, and other clean energy generation technologies. To date, no single regulatory framework has been developed

to serve as a North Star for renewable energy project end-of-life planning, leaving a patchwork of federal, state, and local policies and regulations to sift through—and leaving project owners and developers, as well as landowners and other interested parties, to fend for themselves.

In other industries such as oil and gas extraction, decommissioning has long been recognized as a critical part of responsible development. For example, the oil and gas industries have mature and extensive regulations and requirements that deal with financial assurances, well abandonment and reclamation. These regulations provide reliable guidance for oil and gas industry participants with respect to project end-of-life obligations. The same regulations, however, cannot simply be imported wholesale into an entirely different area of the energy industry. Nevertheless, in many respects state and local governments' experiences with the oil and gas industry are informing aspects of their approaches to renewable energy end-of-life and decommissioning regulations.

In this uncertain landscape, creative problem-solving is required to tackle the numerous challenges involved in retiring renewable energy projects —such as adapting to evolving regulatory requirements, managing large quantities of hazardous material contained in project components, acquiring land use approvals and real estate for storage of decommissioned equipment, and reconciling project end-of-life obligations with contracts that may not clearly address such issues.

With solar panels and wind turbines typically having a useful life of 20 to 30 years, renewable energy industry participants can expect similar issues to occur every few decades. Given the decades-long lifespan of most renewable energy projects, project owners, developers and other participants must plan now for how project end-of-life obligations and regulatory requirements will be addressed.

Those involved in the development of new projects cannot wait until their assets have deteriorated to begin preparing; instead, they must proactively plan for the full lifecycle at the project's outset in order to ensure compliance. Given the variety of requirements (whether statutory, regulatory, contractual or otherwise) and the potential for overlap and conflict between these requirements—and uncertainty around future regulations and costs, failure to carefully plan for decommissioning considerations could result in significant unanticipated consequences when planning for a new project or when a project reaches the end of its useful life.

“If approached with strategic forethought, however, the renewables market can also serve as a fruit-bearing land of opportunity.”





KEY FINDINGS AND RECOMMENDATIONS

This white paper provides a high-level overview of state requirements related to the decommissioning of renewable energy projects.

As mentioned, each state's approach—in the form of both legislation and policy—varies significantly. Some states focus exclusively on financial assurance requirements to ensure that end-of-life obligations are funded, while others also mandate specific regulatory standards for decommissioning efforts. Some states require the submission of detailed decommissioning plans, some provide for government monitoring and approval of decommissioning efforts, and some focus heavily on land reclamation.

In Part A, we outline the current statutes and/or regulatory codes that concern decommissioning requirements for each party involved in constructing and operating a wind or solar energy facility, including landowners, lessees, municipalities and state governments. A thorough knowledge of all applicable requirements as well as careful coordination among all parties will help guarantee a project's successful decommissioning.

In Part B, we illuminate common decommissioning requirements found in state statutes and codes. Some of the most widely used state decommissioning requirements include: anticipated life of the project,⁴ a description of the manner of decommissioning,⁵ periodic updating of decommissioning costs,⁶ financial capacity to fully fund decommissioning,⁷ assurance of restoration of land⁸ and compliance with local laws applicable to decommissioning.⁹

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