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To: The Honorable Kevin Sparks, Committee Chair, Senate Committee on Natural Resources
The Honorable Judith Zaffarini, Vice-Chair, Senate Committee on Natural Resources
The Honorable Members, Senate Committee on Natural Resources

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Sierra Club's Comments Regarding Decommissioning and Energy Production

The Sierra Club Lone Star Chapter representing more than 21,000 members across Texas submits the following comments to the Senate Committee on Natural Resources. We appreciate the Committee's attention to improving the regulatory processes in Texas and the opportunity to provide our recommendations for either additional regulatory or legislative action regarding decommissioning. Texas is blessed with abundant natural resources and a robust economy, but we need Texas solutions to assure that our economic development is accompanied by a strong, and clear regulatory framework that protects our communities. We believe that the answer is neither deregulation or overregulation but a balanced approach that leads to positive outcomes for all Texans. As an organization, we have been supportive of the underpinnings of our electric grid, including our strong energy-only market, the initial investments in the Renewable Portfolio Standard and CREZ build-out, but also the actions taken by this and other committees to strengthen requirements for decommissioning for all energy resources. While we are pleased with the progress made to assure that energy developers are responsible for returning the land to the way it was found - or as the Girl or Boy Scouts say - Leave no Trace principles - more can be done.

Sierra Club supports the existing regulatory framework for wind, solar and energy storage but...

As a state with a large population, industrial base, petrochemical industry and oil and gas production and more recently, the largest renewable and utility-scale storage in the nation, it is not surprising that Texas has environmental challenges stemming from that growth. Still, Texas has made progress over the last 30 years through its delegated programs in air, water and land, and actions taken by the Legislature as well as voluntary effort of the industry.



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In terms of the charge of this committee, Sierra Club was very supportive of the laws passed in the last several sessions that have increased requirements for decommissioning and land restoration on the wind, solar and storage industry.

For wind farms, Texas first put standardized agreements between landowners and grantees into statute in 2019 through HB 2845, statutorily obligating in Utility Code Chapter 301, wind farms to be responsible for decommissioning all materials, and returning soils, and roads to their previous state. Grantees were also required to post financial assurance after the wind farm had been operational for a certain number of years. In 2021, the legislature through SB 760 created an identical requirement for utility-scale solar farms.

Last session, Sierra Club supported both Texas House Bills 3809 and 3228, which under Chapter 303 of the Utility Code (and amendments to Chapter 301 and 302) introduced significant changes to the decommissioning and recycling requirements for Battery Energy Storage Facilities ("BESFs"), Solar Power Facilities, and Wind Power Facilities in Texas. It should be noted that this legislation, effective for agreements entered into on or after September 1, 2025, mandates specific obligations for the removal and recycling of facility components. Thus, depending on the date at which different facilities are operational, and the chapter which applies to them can determine what obligations they must meet. Still, it would be fair to say that new solar, wind and BESS facilities must meet strict decommissioning and financial standards. It's important to note that co-located facilities (solar, wind and batteries) are also covered by the legislation.

HB 3809, codified into law as Chapter 303 of the Texas Utilities Code, requires project lessees to undertake comprehensive decommissioning and recycling activities. Requirements include removal of all project materials (including transformers, substations and cables), any overhead lines and - upon request of the landowners - removal of roads, restore land to a tillable state, and reseed as appropriate.

Recycling and Disposal: Project lessees must also reuse, recycle, or ship for recycling all recyclable facility components, and dispose of all components of the facility that are not practicably capable of being reused or recycled. These requirements are now true not only for new BESS facilities, but co-located BESS, solar and wind facilities.

Financial Assurance: The project lessees must also provide landlord owners with financial assurance covering the full cost of recycling or disposal of all facility components, less project salvage value (salvage value to exclude the amount pledged for debt) along with an estimate of these costs. Financial assurance must be delivered by the earlier of (i) agreement termination or (ii) year 10 of the wind or solar operations date or year 15 of the battery operations date and must remain sufficient and in place until the lessee's decommissioning activities are completed.

Essentially, HB 3228 not only added BESS to the decommissioning, and financial assurance regime, but added recycling and disposal requirements on all wind, solar and battery operators.

Reviewing and Revising Lease Agreements

It is important to note that the changes to Chapter 301 and 302 regarding recycled materials and the new Chapter 303 of the Texas Utilities Code on BESS apply only to agreements entered into on or after the effective date of the Act, September 1, 2025. Agreements entered into before this date are governed by the law in effect at the time of the agreement. However, if amending, or amending and restating, a lease entered into prior to September 1, 2025, consider whether the new law applies. It is also true that the laws passed in 2019 on wind and 2021 on solar had similar provisions. (It's important to note that even before these dates, it was routine for wind and solar companies to have equivalent provisions in the lease agreement, but it wasn't specifically required as part of a statute which provides more protections to landowners.). The Legislature could request a study to ascertain how many leases are covered by the laws currently versus projects that were operational before the advent of the laws.

Additional Safety Measures Approved for Batteries And Recyclers of Battery Components

House Bill 3824 (King). Requires the adoption of fire safety standards and certifications developed by National Fire Protection Association & Underwriters Laboratories for all utility-scale batteries, and mandates third-party inspections, emergency response planning and annual training for first responders at BESS facilities. The rules for this law are through the Texas Department of Insurance and go into effect in January of 2027.

While counties and cities can not pass their own rules on BESS on these issues that go beyond these standards, counties and cities can assure these rules are followed, and municipal utilities have additional ability to inspect and create safety standards.

House Bill 3229 (Lambert). Requires recyclers of wind, solar, and BESS components to submit annual reports to TCEQ and post financial assurance to cover recycling and disposal. The bill includes compliance and enforcement including a provision of up to \$500 a day for not following the requirements of the bill.

Additional Issues the Sierra Club Would like the Legislature to Consider

First, we would hope that the industry is proactive and includes information on their websites about their existing projects which might have been developed before these laws were put in place. In particular, letting the public know that they are meeting these fire safety and other standards is important, and that they have developed financial assurance measurements. Sierra Club would support efforts to create project-level websites, either through voluntary efforts, or legislation requiring project developers to provide basic information about their project and how input from the public can be provided. Transparency helps everyone.

Second, we believe that in some cases local county authorities should have some additional regulatory authority over land use in general. Thus, while we would not support allowing a county to impose moratoriums or bans on a specific industry, we would be supportive of new laws that give counties more authority over issues related to water resources, such as draining fees and districts, impervious cover, and key water features like karst formations, as well as more authority to adopt, and enforce modern building codes. We have previously supported bills in this regard, such as HB 882 by Ron Reynolds - *Relating to building codes applicable in the unincorporated areas of a county* from the 89th Regular Session and HB 117 by Zweiner during the 2nd Special Session - *Relating to the authority of a county to regulate impervious cover in the unincorporated area of the county*.

Sierra Club believes that full implementation of the laws passed last session related to BESS safety, recyclers of renewable and BESS components, including enforcement, expansion of decommissioning and financial assurance to all renewable and battery projects - including required consideration of the costs of recycling - should be allowed to work. At the same time, we would support more transparency, with better proactive information provided by the industry for existing BESS and some expansion of authority for counties over certain land use issues should help balance development of storage while ensuring safety.

Wildfires and Other Natural Disasters Point to the Need for Further Safety Concerns

Unfortunately, extreme weather and our changing climate have shown how additional considerations may be needed to protect our environment and community health. Recent West Texas fires - some of which have directly impacted renewable energy projects – point to the need to consider additional safety measures. Hurricanes, floods and even freezes also could lead to a situation where dangerous materials used at solar, wind and BESS facilities could fail, or travel offsite. The legislature could consider requiring additional financial assurance or safety measures to protect against such events.

The Hope of a Circular Economy is still a Dream in Most Cases

In a perfect world, the equipment and materials used at solar, wind and BESS facilities would be reused as part of a circular economy. In early 2025, the DOE produced a report called Recycling Wind Energy Systems in the United States Part 1: Providing a Baseline for America's Wind Energy Recycling Infrastructure for Wind Turbines and Systems, that highlighted the challenges and opportunities for the renewable energy industry to move toward a future in which components are produced locally, utilized, then recycled back into the industry. The study focused in particular on onshore and offshore wind and found that about 90% of the components in the wind industry could be recycled with some relative ease. Still, much more must be done to fortify supply chains for the American sustainable goods economy. Unfortunately, the DOE only produced Volume 1 of the study, and grants meant to further the research from the report were ended, as presumably the new administration did not have an interest in the topic of how to make a growing industry more carbon-free. But whether you are focused on carbon emissions or not, growing our supply chain locally and assuring that energy infrastructure is decommissioned and hopefully recycled back into a productive use should be in everyone's interest. This could be true whether the facility is located onshore or even in the case of offshore wind -which we don't presently have in Texas.

To make the renewable sector more sustainable, the DOE report emphasized the adoption of measures such as:

- Better decommissioning practices – Improving how turbine materials are collected and sorted at the end of their life cycle.
- Strategic recycling sites – Locating recycling facilities closer to where turbines are decommissioned to reduce costs and emissions.

- Advanced material substitution – Using recyclable and affordable materials in manufacturing.
- Optimized material recovery – Developing methods to make recovered materials usable in second-life applications.

Progress can be made by designing with local inputs and recycling in mind, though wind turbine blades in particular remain a difficult issue. Components like blades, generators, and nacelle covers are difficult to process. Blades, for instance, are often made from hard-to-recycle materials like thermoset resins, but switching to recyclable thermoplastics could be a game changer. Innovations like chemical dissolution and pyrolysis could make blade recycling more viable in the near future.

Critical materials like nickel, cobalt, and zinc used in generators and power electronics are particularly important to recover.

The Legislature should consider working with state agencies and the industry on an analysis of how to promote such a circular economic in Texas for energy infrastructure. Providing local supplies and disposing or recycling of materials in a way that promotes safety and reduces pollution would be beneficial to Texas.

Let's not Forget that improvements are still needed in oil and gas decommissioning as we focus on renewable energy and battery storage

Texas is not keeping up with the need to assure oil and gas wells are plugged, and despite record spending and legislation, the problem is getting worse

Texas is the leading oil and gas state in the nation, and has dug more oil and gas wells than any other state. Under Texas law, oil and gas producers are responsible for plugging their wells, but many older wells exist where a company of record doesn't exist and the state is left holding the bag, while in other cases, companies simply flout the law and fail to comply with requirements. As a result there are thousands of abandoned and orphaned wells. While some progress has been made through federal and state funding, the problem appears to be getting worse not better.

The universe of oil and gas wells in the state is massive. According to a 2025 annual report from the Railroad Commission, there were some 435,063 oil and gas wells drilled and registered with the state, of which approximately 155,531 were considered inactive wells. Unfortunately that number appears to be rising. Currently, according to RRC's most recent monthly report,

there are some 158,399 inactive or shut-in wells in the state. According to the Railroad Commission's most recent Orphan Well list from July of 2026, there are currently approximately 12,185 wells that have been listed as "orphan." Orphaned wells are inactive, non-compliant wells that have been inactive a minimum of 12 months and the responsible operator's Organizational Report (Form P-5) has been delinquent for greater than 12 months. In other words, they are not operating or producing, and the operator has not begun the required process to plug the well, meaning they have become a ward of the state. In recent years, a combination of emergency funding approved by the state along with federal funds has allowed for more state-funded wells to be plugged on an annual basis, but even while plugging 1500 to 2000 wells per year, the number of abandoned wells appears to be growing.

Orphan Wells Plugged through State Management (does not include federal projects)

Fiscal Year	Number of Wells Plugged	Cost
FY 2024	1,256	\$34.0 million
FY 2025	1,101	\$62.8 million
FY 2026 (through July)	1,690	\$95.1 Million

Source: RRC, State Managed Well Plugging Activities, August 10th, 2026, available at <https://www.rrc.texas.gov/media/vkqbx30q/july-26-smp.pdf>.

It is worth noting that industry itself plugs thousands of wells a year as required by statute, but even despite this effort, overall the number of orphaned wells is increasing.

It is worth noting that even though a combination of federal funds from the Bipartisan Infrastructure Act, and a one-time injection of \$100 million from general revenue funds last session have helped the RRC plug more abandoned orphaned wells, the cost of plugging wells is going up and the fees and fines that support the main GR-dedicated fund - the Oil and Gas Regulation and Cleanup Fund - have not kept pace with the needs of the state-managed program.

Sierra Club Recommendations: Beef up the Oil and Gas Regulatory and Cleanup Fund With Updated Bonding, Fines and Fees

Currently, fines and fees and required bonding and financial assurance that reverts to the state if a well is not plugged by the operator flows into the Oil and Gas Regulation and Cleanup Fund. However, existing statutes in the Natural Resource and Water codes place statutory caps on many permit fees, bonding amounts and especially fines for oil and gas companies that don't

comply with the law. The Legislature should consider modernizing these fees, fines, bonding amounts and permit fees to better support the agency.

In its LAR for 28-29, the Texas Railroad Commission is again asking for a \$100 million dollar exceptional item request for well plugging from General Revenue, even though there is currently about \$194 million in balances in the GR-Dedicated OGRCF, according to recent Comptroller figures at the end of the last session. Still, it is apparent that if the RRC is to be a true self-funded agency, more money will be needed to keep pace with the now 12,195 orphaned wells, zombie wells and p-13 wells where there is not a clear responsible party that can be identified. The legislature should work to assure that the GR-Dedicated Oil and Gas Regulation and Cleanup Fund is keeping up with the needs of the state.

Fines for Rulebreakers are Too Low and Should Flow to the Agency

The Legislature should ensure that oil and gas companies that break the law pay appropriate fines to discourage violations. Current laws set a maximum fine on oil and gas companies that violate environmental laws of only \$10,000 per day, an amount set in 1983, while other agencies, like the EPA, Attorney General, and TCEQ, can assess much higher fees, such as a maximum of \$40,000 per day. The low maximum fines at the RRC create a perverse incentive to break the law instead of investing in adequate pollution controls. The Legislature should raise the fees and fines that non-compliant oil and gas companies pay. Legislation to update the fines paid by oil and gas companies that violate the water and natural resource code from \$10,000 per day to at least \$25,000 dollars per day would be a start. These fines have not been updated since 1983. The fines should flow to the OGRCF, not general revenue.

Statutes limit permit fees

The Legislature should also review statutes and consider increasing caps on permit fees, which in some cases are well below the cost for staff to review and issue the permit;

Finally, the Legislature should raise the minimum bonding and financial assurance fees intended to prevent companies from leaving the state holding the bag should they leave an abandoned and orphaned well.

Bonding Levels are Too Low

Since 1991, Texas has been requiring oil and gas operators to post a bond, or meet other requirements in terms of financial security to assure that the state is not left without any recourse should a company go bankrupt, walk away or simply not obey the law. The money is there to assure that wells are properly plugged. Companies can meet these requirements in a variety of ways, but the principal manner is to post either an individual bond or what is known as

a “blanket” bond which can cover multiple wells. The bonding levels have not changed since 1991.

The legislature should consider a simple bill to modernize and update the bonding amounts that oil and gas companies are required to post. While it will not by itself solve all orphaned and abandoned well issues in Texas, it will help. In 1991, hydraulic fracturing, directional and horizontal drilling were only being experimented on and the estimated cost of plugging wells was a fraction of the cost today. A legislative approach would be to update the cost by moving away from a \$2 per foot requirement to one based on average plugging costs. Recent data indicates that individual bonding requirements only cover about 16% of the cost of plugging a well. Under the proposed bill, the RRC would use annual real data to set plugging requirements each year for individual wells. Under the proposed legislation, the amount could be different depending on the district. For example costs to plug in the Permian are different from costs in the Barnett-Shale.

In addition, the legislature should consider updating the blanket bonding requirements by increasing the amount of the blanket bond and changing the number of wells “covered” by the blanket bond. Under current law, blanket bonds are only charged \$25,000 for those with 10 or fewer wells, while the blanket bond for those drilling more than 100 wells is currently only \$250,000. The Legislature should consider increasing these bonding blanket requirements by a factor of 5X to 10X to be more reflective of actual costs today. Simply put, average costs of plugging wells today have skyrocketed and the statutory caps in law have not kept up with this reality.

While raising bonding levels does not by itself increase revenues to the state, in the event that an operator goes bankrupt or does not meet its obligation, the higher levels put in bonds will lead to more resources to the state in the future.

Conclusions: The legislature should take steps to continue to improve the framework - regulatory and incentive-based - to create a cleaner Texas.

Virtually all energy resources in Texas - from oil and gas to renewable energy and batteries - are located on private property and involve leases with landowners. As such, Texas must have a strong regulatory framework to assure that landowners (and nearby mineral rights holders) are protected from future pollution, be it a leaking well, leftover battery storage or solar PV panels that can contain metals and toxics elements, or wind turbines, which can be full of electric equipments and oils.



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Fortunately, Texas is not starting from scratch and there are already existing requirements for these industries for financial assurance and clean-up. Still, as the evidence shows, for oil and gas, bonding and fine requirements should be beefed up, and strict timelines enforced to assure that wells are plugged in a timely manner - and hopefully not utilizing state resources. The legislature should examine the financial assurance timelines for wind, solar and batteries to assure that the current timelines - focused on 10 years for wind and solar and 15 for batteries - are appropriate. Sierra Club also has major concerns about the lack of recycling options for many solar and wind components. Our wish is for Texas to be a strong state for the creation of a supply chain where we do not rely on components from countries like China and instead can manufacture components in Texas, or at least in other nearby states or countries like Mexico. This both reduces pollution from transportation emissions, but also should lead to more opportunities for recycling. One day, we also hope that offshore wind and baseload geothermal energy is part of this energy infrastructure and circular economy as Texas continues to grow. Texas should prepare now for this reality. We would suggest that the Legislature consider a study of how to create a circular economy for the components used in the energy industry.

Thank you for the opportunity to provide these comments. We look forward to working with the Committee during the interim and into the upcoming legislative session to assure that Texas continues to become a cleaner state with a high quality of life, even with robust economic development, all-of-the-above energy investment and population growth.