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### **Sustainability and energy efficiency in United States beet sugar processing.**

As legislation and shifting energy markets reshape the United States business landscape, sustainable business practices, carbon reduction, and highly energy-efficient operations are becoming increasingly crucial across all industries. No current federal legislation has established a cap-and-trade system or similar pricing for carbon emissions in the United States. Despite this, 48 states and the District of Columbia have developed State Climate Action Plans and/or Priority Climate Action Plans. Additionally, 23 states, along with the District of Columbia and Puerto Rico, have set specific greenhouse gas reduction goals. The United States beet sugar industry must be prepared to adapt to potential state and federal mandates on emissions reductions and carbon pricing. The European Union and Canada, with their mature tax and secondary market systems for carbon pricing, serve as models for the potential future. These systems have significantly influenced both their regional and global markets and promoted a shift towards sustainable energy solutions. They have also created new opportunities for alternative revenue streams from renewable energy production which could benefit from substantial tax credits and price incentives. To take advantage of these opportunities, increase energy efficiency, and prepare for market changes due to emissions pricing, the U.S. beet sugar industry must embrace a combination of traditional energy efficiency methods, modern sustainability practices, and innovative technologies. Projects that offer a positive return on investment with minimal to no reliance on tax credits or other incentives, cutting-edge technologies aimed at complete decarbonization and sustainable energy production, and every solution in between should be concurrently investigated and made ready to be implemented at the plant and company level to ensure the industry is prepared for all potential futures.