HB 1133 – Placing Solar on Landfills

Legislative Rubric from Science for Georgia

HB 1133 - This bill redefines terms related to government works projects, water, and sewer projects to allow the Georgia Environmental Finance Authority (GEFA) to build solar installations on closed landfills. It also streamlines the bidding process and provides limited liability for GEFA in managing these projects.

Criteria	Variables			
Impact **Who is going to be impacted? Is it equitable? List stakeholders & opinions.**	Negative		Positive	
	Largely Positive, With Care -- Landfills are closed after they reach capacity to protect the environment. Three types of covers are used, including soil-only, soil-geosynthetic, and geosynthetic covers. Solar can be installed on all three covers in a beneficial manner when accounting for various factors. A solar landfill project will usually perform a geotechnical investigation, stormwater management study, solar panel and electrical system design, and a demonstration to ensure that both the development and use of the solar project will not damage the cover system. Potential downsides include erosion—managed by good stormwater design, vegetation, and management—maintaining vegetation, managed by manual cutting to avoid cable damage—and differential settlement, managed by engineering design and monitoring. In Georgia, while municipal solid waste landfills are subject to more oversight by the Environmental Protection Division, inert landfills have less oversight, providing more potential for issues.			
Reach **Does it reach its target audience?**	0 - No impact on target audience.	1 - Impacts narrow segment.	**2 - Impacts Majority; Exceptions**	3 - Impacts entire target audience
	Georgia ranks 7th for number of landfill gas energy projects and municipal solid waste landfills in the United States. As of 2023, Georgia had eleven closed municipal solid waste landfills. However, data holes exist, as roughly two hundred inert waste landfills are documented with the EPD in Georgia while many more have been able to exist under permit-by-rule, requiring little documentation. These inert waste landfills are less regulated. The bill does not distinguish between an MSW and an inert landfill in its current version.			
Scientific Merit **Does it utilize scientific research accurately?**	**YES - this does follow scientific research accurately. Here's why....**		NO - this does not present scientific research accurately.	
	Solar systems are suggested by the Environmental Protection Agency as a potential location for solar and wind production. Proper design is key to safety, including consideration of cover thickness, settlement, wind and snow, and maintenance. Other research notes photovoltaic systems and solar geo-membrane covers as usable on landfills. Research also notes that sites should be compatible in terms of methane concentration, water			

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	runoff, leachate and gas control, site maintenance, surface water control. Infrastructure needs, layout and arrangement, and rated capacity.			
Financial Feasibility Is it financially feasible? or does this have burdensome finances (higher taxes, future costs, etc)?	0 - Extremely high costs	1 - Expensive but can be done	**2 - Slight**	3 - No financial burden
	Financial feasibility includes the energy delivery factor, the initial capital cost, availability during maintenance, energy cost estimates, sensitivity to radiation, and funds allocated to the landfill for closure maintenance. Considering these factors, in Florida, researchers estimated the unit cost of energy for a gridded PV system on a closed landfill in an urban area to be $0.100/kW, which is roughly the same as Florida's average cost of $0.112 /kW. Georgia is slightly less sunny than Florida, with an average of 2,986 hours annually in Macon and 2,927 hours annually in Tampa, suggesting similar but slightly lower cost benefits.			
Political Feasibility Level of opposition and partisan disagreement.	0 - Majority disagreed, regardless of party.	**1 – Split along party lines**	2 - Minimal Opposition	3 - Complete consensus (zero to five 'Nays').
	This bill is entirely Republican sponsored.			
Measurable Metrics? We recommend looking at these 3 metrics. Is the data available or being measured?	0 - no data	1 - some data / not accessible	**2 - most data / somewhat accessible**	3 - complete transparency
	Multiple studies have been performed on technical, environmental, and economic feasibility of solar on landfills in other states, and methods exist to measure the solar energy generation potential at sites. Factors are also identified to measure for safety purposes. However, while the Environmental Protection Division (EPD) in Georgia has a list of landfills in closure, not all landfills were historically documented with the EPD, leaving some data holes. If inert landfills are used for solar projects, less data is available.			