

Department of Legislative Services  
Maryland General Assembly  
2021 Session

FISCAL AND POLICY NOTE  
First Reader

House Bill 520  
Appropriations

(Delegate Barve)

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State Buildings – Geothermal Energy Systems – Requirement

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This bill requires that a geothermal energy system be installed in each newly constructed State building if the payback period for the system is less than or equal to 20 years. The requirement applies only to (1) a building constructed by or for the State for occupancy by a State agency or department or (2) any building constructed for which more than 50% of the construction cost is paid using State funds.

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Fiscal Summary

**State Effect:** No effect on total funding in the capital budget, but construction costs increase for some State projects, as discussed below. As a result, fewer projects may receive funding in some years. State utility costs may decrease over time, but any such effect cannot be reliably quantified and likely occurs beyond the five-year timeframe covered by this analysis. No effect on revenues.

**Local Effect:** None.

**Small Business Effect:** Potential meaningful.

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Analysis

**Current Law:** The Department of General Services (DGS), in cooperation with the Maryland Energy Administration (MEA), must establish standards and procedures, including energy conservation performance guidelines, for evaluating the efficiency of the design for any proposed State-financed or State-assisted building construction. The standards must be based, in part, on the best currently available methods of evaluating design efficiency. The standards must be updated every two years.

To determine life-cycle costs, DGS, in cooperation with MEA, must establish standards that require at least, among other factors:

- an energy consumption analysis of each major piece of equipment in the cooling, heating, hot water, lighting, and ventilation systems; and
- a comparison of possible alternative energy systems.

DGS must adopt and uniformly apply a definition of the “life of the building” and provide defending criteria for the definition adopted.

**State Expenditures:** DGS advises that its design process manual requires a life-cycle assessment of four different heating and cooling systems and that geothermal must be one of the types included. DGS further advises that there is no standard timeframe used for life-cycle assessments but that 20 years is typical because most systems have to be replaced, in whole or in part, after 20 years.

For State buildings, geothermal systems are already being installed when the 20-year life-cycle analysis concludes that it is favorable to do so. However, the bill may result in the installation of a geothermal system when it is not the most financially favorable. The bill requires the installation of a geothermal system any time the payback period is 20 years or less. In some instances, a geothermal system may meet this standard, but a nongeothermal system may have a lower payback period. Normally, the nongeothermal system would be installed in that instance, but the bill requires that the geothermal system be installed instead.

MEA advises that the upfront cost of installing a geothermal system is substantially higher than the installation of nongeothermal systems. Therefore, the cost of some State construction projects may be higher under the bill. This has no effect on total funding available from the capital budget for construction projects that is a set amount determined annually by the Governor and General Assembly through the capital budget process. However, to the extent that some projects are more expensive, fewer funds are available for other projects, so fewer projects may be funded in a given year.

**Small Business Effect:** The bill’s requirement to use geothermal energy systems may increase the demand for contractors that install such systems.

## **Additional Information**

**Prior Introductions:** None.

**Designated Cross File:** None.

**Information Source(s):** Department of General Services; Maryland Energy Administration; Department of Legislative Services

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