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**Fiscal Note**

<b>Drafting Number:</b>	LLS 22-0346	<b>Date:</b>	February 18, 2022
<b>Prime Sponsors:</b>	Sen. Woodward Rep. Holtorf; Valdez D.	<b>Bill Status:</b>	Senate SVMA
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**Bill Topic:**                   **ENCOURAGE GEOTHERMAL ENERGY USE**

<b>Summary of Fiscal Impact:</b>	<input checked="" type="checkbox"/> State Revenue	<input checked="" type="checkbox"/> TABOR Refund
	<input checked="" type="checkbox"/> State Expenditure	<input checked="" type="checkbox"/> Local Government
	<input type="checkbox"/> State Transfer	<input type="checkbox"/> Statutory Public Entity

This bill modifies certain statutory provisions that apply to solar energy so that they also apply to geothermal energy systems. It also directs the Colorado Energy Office to develop basic consumer education materials about leased and purchased geothermal installations. Beginning in FY 2022-23, the bill increases state revenue and expenditures, decreases local government revenue, and increases local government expenditures.

**Appropriation Summary:**           For FY 2022-23, the bill requires an appropriation of \$15,000 to the Colorado Energy Office.

**Fiscal Note Status:**                The fiscal note reflects the introduced bill.

**Table 1  
State Fiscal Impacts Under SB 22-118**

		<b>Budget Year FY 2022-23</b>	<b>Out Year FY 2023-24</b>
<b>Revenue</b>	Cash Fund	\$42,000	\$42,000
<b>Expenditures</b>	General Fund	\$15,000	-
<b>Transfers</b>		-	-
<b>Other Budget Impacts</b>	General Fund Reserve	\$2,250	-
	TABOR Refund	\$42,000	\$42,000

## **Summary of Legislation**

The bill adds geothermal energy systems to statutory provisions that under current law apply to solar energy systems. Specifically, the bill:

- limits the aggregate charges assessed by state or local government to install geothermal systems;
- specifies that geothermal equipment is a type of pollution control device that may be certified as pollution control equipment;
- includes geothermal systems in the definition of projects that may be funded through county or municipal revenue bonds;
- permits a county board of commissioners or regional planning commission, and requires a municipal development commission, to assure access to appropriate conditions for geothermal energy source development in master plans;
- specifies that geothermal energy system installation is not an alteration for the purposes of local zoning requirements;
- adds geothermal energy devices to the types of renewable energy generation devices that cannot be prohibited in legal instruments related to the sale or transfer of real property;
- includes independently-owned geothermal energy systems in the property tax exemption for household furnishings;
- creates community geothermal gardens, which are analogous to community solar gardens;
- authorizes the Department of Agriculture to finance geothermal energy generation facilities collocated with agricultural uses; and
- requires the Colorado Energy Office to develop consumer education about leases or purchased geothermal installation, and to update the Greenhouse Gas Pollution Reduction Roadmap to include geothermal energy as a renewable energy resource that qualifying retail utilities may use to meet greenhouse gas emission reduction goals.

## **Background**

Geothermal energy systems generally transfer heat from the earth to generate electricity or to heat or cool space or water. Geothermal electricity-generating facilities draw steam from underground reservoirs of hot water to rotate a turbine that activates a generator. Geothermal resources used for heating and cooling space and water use wells or buried pipes to transfer heat through either an open-loop or closed-loop system.

Closed-loop geothermal systems circulate a fluid, typically water or an antifreeze solution, through a series of buried pipes. As the fluid passes through the ground, it absorbs heat from the surrounding soil, rock, or ground water. The heated fluid returns to the building where it is used for space or water heating. Once the heat is transferred to the building, the water returns at a lower temperature to the ground loop to repeat the process. This process operates in reverse in cooling mode.

Open-loop geothermal systems use well or surface body water as the heat exchange fluid that circulates through the system and returns to the ground through a well or surface discharge. These systems require a sufficient supply of water. The Colorado State Capitol utilizes an open-loop two well system to heat and cool the building, and is the first state capitol in the country to be cooled with a geothermal system.

## **State Revenue**

Beginning in FY 2022-23, to the extent that geothermal permit applications to DWR increase, fee revenue to the Water Resources Cash Fund will increase. Assuming that the number of permit applications doubles, cash fund revenue will increase by approximately \$42,000 per year. This revenue is subject to TABOR.

Geothermal resources in the state are administered by the State Engineer within the Division of Water Resources (DWR) in the Department of Natural Resources. As authorized by the Geothermal Resources Act, DWR reviews and issues permits for geothermal wells, defined as a well that is constructed for the purpose of exploration, use of a geothermal resource, or reinjection of a geothermal fluid. In calendar years 2020 and 2021, DWR processed almost 90 geothermal permit applications per year, with application fees of \$480 each. Doubling the number of applications (an additional 90 permits per year) would result in about \$42,000 in additional revenue.

## **State Expenditures**

In FY 2022-23 only, the bill will increase state General Fund expenditures by \$15,000 in the Colorado Energy Office. Beginning in FY 2022-23, the bill will also create workload impacts in several state agencies. These costs are described below.

**Colorado Energy Office.** The Colorado Energy Office will require \$15,000 in General Funds to hire a consultant to research and develop basic consumer education materials related to geothermal installations, as the office does not have in-house expertise in geothermal technology and finance. Costs are based on current or completed contract scope of work and hourly rates. The office will also have a small amount of additional work to update the Greenhouse Gas Pollution Reduction Roadmap. Since the bill does not specify a timeline, this fiscal note assumes these updates can be accommodated in future updates to the roadmap.

**Department of Local Affairs.** The Division of Property Taxation within the Department of Local Affairs will have an increase in workload to assess community geothermal gardens as public utilities. The division will need to amend existing tax forms for renewable energy properties and develop procedures for assessing community geothermal gardens. The extent of the workload impact is unknown and will depend on the number of community geothermal gardens installed in future tax years. This fiscal note assumes the workload is absorbable, and that DOLA will request resources through the annual budget process once more is known about the number of properties installed.

In addition, the bill will minimally increase workload in the division to adjust training materials, conduct additional training and to respond to inquiries about legislative changes to property tax. The fiscal note assumes that these workload impacts can be accommodated within existing appropriations.

**Department of Public Health and Environment.** The Department of Public Health and Environment may have an increase in workload to certify geothermal equipment as pollution control equipment. The Department does not currently have a certification program because they have not received any requests to certify any pollution control equipment. If the bill creates requests to certify geothermal equipment beyond the department's capacity, this fiscal note assumes resources will be requested through the annual budget process.

**Department of Natural Resources.** To the extent that this bill increases applications for geothermal permits and installer certification, the DWR will have increased workload to process these applications. The DWR may need to amend Geothermal Rules to add additional detail related to community geothermal gardens. This fiscal note assumes this work can be accomplished within the ordinary course of business.

**Department of Regulatory Agencies.** The Public Utilities Commission will need to update rules to incorporate geothermal community gardens, which can be completed within the ordinary course of business.

**School Finance.** This bill will have an indeterminate impact on the amount of property taxes collected. To the extent that the bill reduces the amount of property taxes collected, it will also reduce the amount of revenue available for the local share of school finance and increase the amount of state equalization funding, assuming the school finance budget stabilization factor remains unchanged. This funding is assumed to be from the General Fund or the State Education Fund.

## **Other Budget Impacts**

**General Fund reserve.** Under current law, an amount equal to 15 percent of General Fund appropriations must be set aside in the General Fund statutory reserve beginning in FY 2022-23. Based on this fiscal note, the bill is expected to increase the amount of General Fund held in reserve by \$2,250 in FY 2022-23, which will decrease the amount of General Fund available for other purposes.

**TABOR refunds.** The bill is expected to increase the amount of state revenue required to be refunded to taxpayers by the amounts shown in the State Revenue section above. This estimate assumes the December 2021 LCS revenue forecast. A forecast of state revenue subject to TABOR is not available beyond FY 2023-24. Because TABOR refunds are paid from the General Fund, increased cash fund revenue will reduce the amount of General Fund available to spend or save.

## **Local Government**

The bill impacts local governments in several areas, as described below.

**Master plans.** Beginning in FY 2022-23, local governments may have expenditures related to updating local zoning plans to include methods for assuring access to appropriate conditions for geothermal energy sources.

**Fee limits.** Limiting the aggregate fees assessed by counties and municipalities on geothermal energy systems may reduce local government revenue. To the extent that the aggregate fee limits are insufficient to cover a local government's actual costs of issuing permits, local general fund or other fund sources may be required to subsidize the full cost of this work. Impacts will vary by local government and depend on current fee structures, geothermal installation activity, and the costs to perform this work. As a result, these local impacts cannot be estimated.

**Property taxes.** The bill will reduce property tax collections to cities, counties, school districts, and special districts by a minimal amount. Under current law, third-party owners (lessors) of residential geothermal systems are required to pay business personal property tax on the facilities that are leased to residential households. Because the first \$50,000 in actual value of business personal property per business is exempt, this fiscal note assumes that the number of such systems currently subject to business personal property taxes is minimal.

## **Effective Date**

The bill takes effect 90 days following adjournment of the General Assembly sine die, assuming no referendum petition is filed.

## **State Appropriations**

For FY 2022-23, this bill requires a General Fund appropriation of \$15,000 to the Colorado Energy Office.

## **State and Local Government Contacts**

Colorado Energy Office  
County Assessors  
Judicial  
Local Affairs  
Personnel  
Public Health and Environment

Counties  
Information Technology  
Law  
Municipalities  
Regulatory Agencies