

Economic Impact Statement

Office of Legislative Oversight

Bill 12-22 Electricity – Board of Electrical Examiners – Licenses – Permit Requirements

SUMMARY

The Office of Legislative Oversight (OLO) anticipates that enacting Bill 12-22 would have a positive impact on economic conditions in the County in terms of certain economic indicators prioritized by the Council. By authorizing third-parties to review permit applications for projects related to photovoltaic (i.e., solar) systems, the change in County electricity law likely would affect certain contractors and their clients in two ways: First, third-party review likely would decrease the average time for residential solar permit review and completion timeline for residential solar projects. As a result, contractors who use third-party review likely would experience a net decrease in operating costs, which would reduce the price of residential solar installation if contractors pass on a portion of the savings to clients. Second, third-party review could help streamline County permitting for other projects. If so, other contractors may also experience a net decrease in operating costs. The magnitude of the Bill's economic impacts could range from slight to significant depending on factors identified in this analysis.

BACKGROUND

Bill Description

With the passage of the Maryland Electricians Act in May 2021, electricians are no longer required to carry numerous County, City, or other local licenses to provide electrical services. Instead, the State has assumed much of the electrician licensing requirements.¹ The purpose of Bill 12-22 is to change County electricity law to conform with the significant changes brought about by the State's assumption of electrician licensing. The changes to County electricity law would include the following:

- Removing the electrician licensing categories assumed by the State, thereby removing County licensing requirements for state-licensed electricians. *This action is required by the Maryland Electricians Act, which repealed the authority of local governments to license master, journeyman, and apprentice electricians.*²
- Creating a County Low Voltage Electrician License since the State does not provide licensing for low voltage contractors.
- Eliminating the Montgomery County Board of Electrical Examiners since the State now handles many of its functions.

¹ Ndou, Livhu to County Council, [Memorandum](#).

² Maryland Department of Labor, [Maryland Electricians Act – Electricians](#).

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- Authorizing third-party plan review for the permitting of photovoltaic systems—defined in the Bill as photovoltaic or “solar” panels, energy storage, or residential electric vehicle charging systems, and any of their related systems/components.³

Primary Economic Stakeholders

The provision in Bill 12-22 that OLO believes would be the most economically impactful to County stakeholders would be **authorizing third-parties to review permit applications for projects related to photovoltaic systems**.

Currently, the Department of Permitting Services (DPS) is responsible for reviewing permit applications for solar installation projects. DPS personnel informed OLO that the third-party permit reviewer would be Solar Automated Permit Processing (SolarAPP+), developed by the U.S. Department of Energy’s National Renewable Energy Laboratory.⁴ According to its website, SolarAPP+ is:

an online web portal that automates the plan review and process for issuing permits to qualified businesses or individuals to install code-compliant residential photovoltaic (PV) systems. Based on model building, electrical, and fire codes, SolarAPP automatically performs a compliance check based on inputs supplied by the contractor to ensure the proposed system is safe and code compliant.⁵

The goal of authorizing SolarAPP+ to review permit applications is to streamline the permitting process for residential solar panel installations.⁶

If this goal is achieved, **the primary economic stakeholders** of Bill 12-22 would be:

- residential solar contractors who use SolarAPP+ and their resident clients; and
- other contractors who benefit from the Bill’s potential to reduce bottlenecks in the DPS permitting process.

Beyond this provision of Bill 12-22, OLO does not believe the other changes to County electricity law would affect County-based economic stakeholders.

However, OLO notes that the State’s repeal of local authority to license certain categories of electricians has economically impacted electricians in the County. By amending County electricity law to conform with the State’s mandate, Bill 12-22 should not impact electricians beyond the legal requirements instituted in the Maryland Electricians Act. Electrical contractors based in the County therefore would be economically unaffected by the passage of the Bill. For this reason, OLO does not consider them a primary economic stakeholder.⁷

³ [Bill 12-22](#).

⁴ DPS personnel, interview with author, June 29, 2022.

⁵ Solarapp.nrel.gov, [What is SolarAPP+?](#)

⁶ DPS personnel, interview with author, June 29, 2022.

⁷ It is worth noting that the Maryland Electricians Act allows local jurisdictions to require master, journeyman, and apprentice electricians to register with the local government and collect a fee. Since Bill 12-22 would not institute (nor expressly forbid) registration requirement, this analysis does not address the economic impacts.

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INFORMATION SOURCES, METHODOLOGIES, AND ASSUMPTIONS

Per Section 2-81B of the Montgomery County Code, the purpose of this Economic Impact Statement is to assess Bill 12-22's impacts on County-based private organizations and residents in terms of the Council's priority economic indicators.⁸ In subsequent sections of this statement, OLO focuses on how authorizing third-parties, specifically SolarAPP+, to review permit applications for projects related to photovoltaic systems likely would impact the primary economic stakeholders identified above in terms of operating costs and income.

To assess Bill 12-22's impacts on the Council's priority indicators, OLO performs a qualitative assessment based on two sources of information:

1. Interview with DPS personnel on June 29, 2022.

2. Nonrandomized control trial pilot of SolarAPP+: Using the Google Scholar database,⁹ OLO identified the following study on SolarAPP+ conducted by the National Renewable Energy Laboratory (NREL), a national laboratory of the U.S. Department of Energy:

Williams, Juliana, Jeffrey J. Cook, Jesse R. Cruce, Kaifeng Xu, Seth Crew, Minahil Qasim, and Matt Miccioli. ["SolarAPP+ Pilot Analysis: Performance and Impact of Instant, Online Solar Permitting."](#) Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-81603. 2022.

NREL conducted a nonrandomized control trial pilot to assess SolarAPP+ performance against traditional permit review processes. The trial was conducted from November 2020 through December 2021 in five jurisdictions—Menifee, California; Pima County, Arizona; Pleasant Hill, California; Stockton, California; and Tucson, Arizona. During the pilot, participating contractors were asked to submit eligible residential solar projects "alternately" through the traditional permitting process and the SolarAPP+ process. The study compared projects permitted through SolarAPP+ (treatment group) and projects permitted through traditional processes both during the trial (control group) and before the trial (historical baseline) in terms of the following outcomes:

- Permit application review time;
- Permit revisions;
- Inspection pass rates;
- Solar adoption timelines; and
- Total staff hours dedicated to residential solar permitting.

The NREL study was chosen for several reasons: First, it's the only impact evaluation performed on SolarAPP+ to OLO's knowledge. Second, despite the NREL study's methodological limitations (e.g., small number of control groups), OLO

⁸ Montgomery County Code, [Sec. 2-81B](#).

⁹ The article was identified using the following search term: "SolarAPP"

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believes the findings offer an adequate basis on which to infer potential impacts on the permitting process for residential solar panel installations should the County adopt SolarApp+ as its third-party permit reviewer.

VARIABLES

The primary variables that would affect the economic impacts of enacting Bill 12-22 are the following:

- number of contractors who use SolarAPP+;
- permit application review time;
- solar adoption timelines; and
- total staff hours dedicated to residential solar permitting.

IMPACTS

WORKFORCE ▪ TAXATION POLICY ▪ PROPERTY VALUES ▪ INCOMES ▪ OPERATING COSTS ▪ PRIVATE SECTOR CAPITAL INVESTMENT ▪ ECONOMIC DEVELOPMENT ▪ COMPETITIVENESS

Businesses, Non-Profits, Other Private Organizations

OLO anticipates that enacting Bill 12-22 likely would have positive impacts on certain residential solar installers and other contractors in the County in terms of operating costs and potentially business income. The County's use of SolarAPP+ likely would impact these indicators in two ways:

1. Achieve efficiency gains in completing residential solar projects for contractors who use SolarAPP+: In its nonrandomized control trial pilot of SolarAPP+'s performance against traditional permit review processes, the NREL study found projects submitted through the SolarAPP+ were:

- reviewed in less than one day across all jurisdictions;
- more likely to require revisions (37%) compared to projects using the traditional process (8%);
- comparable to projects using the traditional process in inspection pass rates; and
- completed (measured from the time of permit submittal to final inspection) an average of 12 days faster than projects using the traditional process.

Importantly, the findings should be interpreted as *suggestive*. First, due to small sample sizes, the results are not statistically significant. Second, the NREL study does not provide details on the characteristics of projects assigned (nonrandomly) to the SolarAPP+ treatment and the traditional permitting control. For this reason, OLO cannot rule out

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that factors other than contractors' use of SolarAPP+ were partly responsible for the decreased completion times in the treatment relative to the control.¹⁰

Overall, the findings point to SolarAPP+'s *potential* to achieve efficiency gains in completing residential solar projects in the County. OLO is confident that through its automated platform, SolarAPP+ would reduce the average residential solar permit review time for projects that use the tool from DPS's current average to less than one day. Also, OLO believes it is possible SolarAPP+ would decrease the average timeline for completing residential solar projects. The magnitude of the average time savings likely would depend on (a) how many contractors decide to use SolarAPP+ over DPS's permitting system and (b) how well contractors and County inspectors learn how to efficiently use SolarAPP+.

If Bill 12-22 achieves efficiency gains for certain residential solar projects, then County-based contractors who use SolarAPP+ likely would benefit from a net decrease in operating costs related to permitting, inspecting, and/or completing these projects.¹¹ In addition, if the Bill reduces the average project completion time for these contractors, they may have the opportunity to take on more projects per year. If so, they likely would experience a net increase in business income. However, OLO is uncertain whether there is sufficient demand for residential solar projects to increase per year installations for affected contractors.

2. Potentially help streamline DPS permitting for other projects: In addition to the results presented above, the NREL study found that participating jurisdictions saved hours related to permitting for residential solar projects. Indeed, from November 2020 to December 2021, SolarAPP+ saved jurisdictions over 2,700 combined staff hours, in comparison to less than 400 spent for SolarAPP+ implementation.

If a substantial number of contractors use SolarAPP+, then there may be a reduction in DPS permitting bottlenecks. This outcome may decrease the average time required for other contractors to attain permits from DPS. If so, other contractors may benefit from the positive externality through reduced operating costs associated with permitting and inspection (i.e., number of workforce hours required to manage project permits).

Beyond these potential impacts, OLO does not expect Bill 12-22 to affect private organizations in terms of the Council's other priority indicators.

Residents

OLO anticipates that enacting Bill 12-22 may have positive impacts on certain residents who have residential solar installed on their homes in terms of discretionary income. If contractors who use SolarAPP+ experience a net decrease in operating costs related to permitting, inspecting, and/or completing residential solar projects, they may pass on some portion of the savings to their customers in the form of minor decreases in installation prices. Also, if the average timeline for completing residential solar projects decreases for contractors who use SolarAPP+, certain customers may experience a decrease in

¹⁰ To illustrate, if there were more small projects in the treatment group than the control group, then project simplicity may have contributed to faster completion times in the SolarAPP+ treatment.

¹¹ For more on the "soft costs" of residential solar, see Benda, "[The Soft Costs of Distributed Solar](#)."

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costs associated with overseeing projects (e.g., taking unpaid leave from work). Holding all else equal, these factors may reduce the amount of discretionary income residents use for solar installation than they otherwise would in the absence of Bill 12-22.

Beyond these impacts, OLO does not expect the Bill to affect residents in terms of the Council's other priority indicators.

DISCUSSION ITEMS

Given the limited available evidence on SolarAPP+'s impacts in other jurisdictions, Councilmembers may want to consider requiring periodic reports from DPS that assess the tool's impacts on residential solar project completion timelines, DPS's permitting process, and other outcomes of interest.

WORKS CITED

Maryland Department of Labor. [Maryland Electricians Act – Electricians](#).

Montgomery County Code. [Sec. 2-81B, Economic Impact Statements](#).

Montgomery County Council. [Bill 12-22, Electricity – Board of Electrical Examiners – Licenses – Permit Requirements](#).
Introduced on June 14, 2022.

Ndou, Livhu to County Council. [Memorandum](#). Bill 12-22, Electricity – Board of Electrical Examiners – Licenses – Permit Requirements. June 9, 2022.

Solarapp.nrel.gov. [What is SolarAPP+?](#)

Williams, Juliana, Jeffrey J. Cook, Jesse R. Cruce, Kaifeng Xu, Seth Crew, Minahil Qasim, and Matt Miccioli. [“SolarAPP+ Pilot Analysis: Performance and Impact of Instant, Online Solar Permitting.”](#) Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-81603. 2022.

CAVEATS

Two caveats to the economic analysis performed here should be noted. First, predicting the economic impacts of legislation is a challenging analytical endeavor due to data limitations, the multitude of causes of economic outcomes, economic shocks, uncertainty, and other factors. Second, the analysis performed here is intended to *inform* the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the Bill under consideration.

CONTRIBUTIONS

Stephen Roblin (OLO) prepared this report.