

# MEMORANDUM



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Date: **10/18/2022**  
To: **Stoyan Bumbalov**  
From: **Matthew Tyler**  
Subject: **Comments on Renewable Energy Proposal for the Washington State Energy Code**

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Washington State recently adopted a commercial provision to the Washington State Energy Code that requires on-site renewable energy generation for commercial buildings over 10,000 square feet (Proposal 21-GP1-078). PNNL analyzed the cost-effectiveness of this proposal and found it would be cost-effective per a prior memo dated 2/25/2022.

The low electricity rates mentioned in the WPUDA testimony are from utility service territories with low population density. One likely would expect much less commercial new construction over 10,000 sf in those areas especially compared with the larger population areas.

Electricity costs in the PNNL analysis are from 2021. Updating the costs to more recent values would likely be even higher and further improve cost-effectiveness.

The PNNL analysis and the original proposal did not account for the social cost of carbon in either analysis. Accounting for that by adding a \$/kWh to the energy cost for SC-CO2 would further improve cost-effectiveness.

The PNNL analysis accounts for PV production degradation on page 1 of the memo.

WPUDA's proposed cost of \$1,298/kWdc is 25% lower than the \$1,720/kWdc (\$1.72/Wdc with units conversion) used in the PNNL analysis. Both costs are from NREL, the higher cost from 2021, the lower cost from 2022. Costs continue to rapidly decline despite high inflation.

Table 7 in the prior PNNL memo shows payback periods in the range of 12 to 17 years, well under the effective useful lifetime of a PV system. If the analysis were updated using WPUDA's proposed cost, the payback periods would range from 9 to 13 years.