

POLICY NOTE

Proposed Spokane energy ordinance would impose large costs while doing little for the environment

By Todd Myers, Director, Center for the Environment

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Key Findings

1. A proposal to mandate 100 percent renewable energy for Spokane residents by 2030 is based on faulty assumptions and would do little for the environment at a high cost.
2. The proposal would require 10 percent of renewables to be generated locally, which would add millions to the cost of electricity in Spokane.
3. To meet the local-production goals, Spokane would have to build a new biomass plant (like the one they currently have) every other year for a decade.
4. The proposed ordinance also promises significant new spending to offset the increased energy costs but says nothing about the tax increases necessary to fund those promises.
5. If rooftop solar were used to meet just one-quarter of Spokane's community-based energy, it would amount to 137 times as much solar generation as currently exists in Washington state.
6. Using the approach offered by the ordinance, Spokane would waste about 95 percent of the money dedicated to reducing CO₂ emissions.

Members of the Spokane City Council are considering a new climate ordinance that would require Spokane residents to use 100 percent renewable energy in the city by 2030. The proposed ordinance would also require that at least ten percent of the electricity used by residents be produced within the city or in the local area.

The proposed ordinance would be extremely costly, promises huge new infrastructure costs without saying how taxpayers will fund them, and wastes vast amounts of money on projects that do little to help the environment.

The ordinance is also filled with errors and vague claims. Below, I review the various “Whereas” clauses to identify the many problems in the text.

“Whereas, local, regional, and global economies are transitioning to low-carbon energy sources.”

Washington state has [the lowest carbon intensity for energy in the nation](#) – 34 percent lower than the national average – thanks to our hydro and nuclear energy. Ironically, this initiative would ban or discourage those non-carbon energy sources. This clause indicates the ordinance is not about reducing carbon emissions. It is about imposing a particular political ideology and will end up harming the environment.

“Whereas, the future of the fossil fuel industry is questionable...”

This statement is completely inaccurate. [The International Energy Agency](#) predicts demand for coal, oil, and natural gas will actually increase by 10 percent worldwide by 2030. The claim the sponsors make in the ordinance appears to be invented, without any effort to determine whether it is true or not. This is a pattern revealed in the drafting of the ordinance – its proposed energy policy is based on a series of false or unsubstantiated claims.

“Whereas, changes in Spokane's climate are already being felt.”

This is the standard sort of vague claim that replaces actual information when accurate climate data would be inconvenient. What impacts are being felt in Spokane? How much do they cost? How will this the proposed ordinance stop or reduce these impacts? None of these questions are even considered.

“Whereas, scientists found that climate change poses a significant threat to Washington’s economy...”

There is no source given for this claim. In fact, no predicted climate scenario shows our economy shrinking. The goal of unsubstantiated and inaccurate information like this is to create a crisis mentality and prevent anyone from asking questions about the true cost of the proposed ordinance. Nor is there any effort by the sponsors to show that the benefits of their ordinance would be greater than the costs. It is easier simply to hint at big benefits and warn about pending catastrophe if their program is not adopted.

“...changes in precipitation patterns that affect agriculture and hydro-electric energy generation...”

This is an ironic statement since the ordinance would specifically prohibit hydro-electricity as an energy source, but then uses the lack of hydro power in the future as a justification for enacting the ordinance.

“Whereas, the entire community will be impacted by climate change, but communities that already face existing socioeconomic and health inequities will be most severely impacted by these risks.”

Although the sponsors claim to be concerned about existing socioeconomic inequity, they do not consider the impact of increased energy costs on the poor. Energy taxes are recognized as one of the most regressive forms of taxation. The proposed ordinance promises to identify “policies to reduce the cost-burden to low-income citizens as a result of implementing the Plan,” but, again, the sponsors offer no way to pay for these subsidy programs.

“Whereas, one sector alone, solar energy, accounts for over 300,000 jobs in the United States.”

The reason they cite national data in this clause is that Washington state is the worst in the nation for solar power production. According to the [National Renewable Energy Laboratory](#), Washington state has the lowest amount of solar irradiance in the lower 48 states. Spending huge sums of money to create tiny amounts of energy in the name of “jobs” is simply wasteful and wastes opportunities to spend money on projects that would truly help the environment.

If, however, city council members feel this is a good way to create jobs, they could require solar installers to hire two people for every job opening they have. This policy would instantly double the number of solar energy jobs created.

“Whereas, community-based development of environmental infrastructure...”

The phrase “community-based development” and the wording in a number of the other ordinance clauses clearly indicate increased government spending. There is no funding mechanism, however, provided in the ordinance. The text only says the cost will be determined later.

As we show below, the potential cost just to meet the proposed renewables goal is extreme. Tax increases to cover the promised “community-based development” and other projects would have to be imposed on top of that.

“Whereas, ‘renewable energy’ specifically excludes energy derived from fossil fuels, nuclear and biomass energy from (i) wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic and (ii) non-residual wood from standing trees.”

There is a [Waste-to-Energy generation](#) plant in Spokane, but half of its current generation is from fossil-fuel sources and would not count as “renewable” under the ordinance. It is unclear how much of the remaining energy from this local plant would be lost due to the ban on other types of waste wood.

In addition, under the ordinance the Boulder Park natural gas generation plant located near Spokane could not sell electricity to residents in Spokane.

“Whereas, renewable energy must also be sustainable, both in terms of the conservation of fish and wildlife habitat...and therefore reliance on existing hydroelectric power requires special consideration to reduce negative ecological impacts to biological systems dependent on the affected watersheds.”

Despite the fact that the resolution later counts “existing” hydroelectric power, this clause clearly indicates a bias against hydro power and, at the very least, would increase the cost of the existing energy sources.

Further, this wording is extremely vague and sets no clear policy goal for fish passage or other impacts. As we have seen with the Snake river dams, even if dam operation meets environmental targets, many in the environmental community still demand destruction of the dams and the loss of their carbon-free energy.

The ordinance could eliminate up to 87 percent of [existing generation in Spokane County](#). This would leave Spokane County with only 61,000 megawatt hours (MWh) of electrical generation annually. The city of Spokane accounts for about 35 percent of Avista’s current residential population. Assuming a third of its commercial sales are also within city limits (a low estimate), the total annual demand for electricity in the city of Spokane was [about 4.1 million MWh annually](#) in 2015. This number is probably higher today.

Given the bias against large hydro-electric generation, under the ordinance Spokane may have to replace 98.5 percent of its electricity sources by 2030. Even if the city decided to keep all existing local hydropower, it would have to replace 90 percent of its existing energy supply by 2030, using only wind, solar, and selected biomass generation. If that were not burdensome enough, the next clause makes achieving these policy goals even more ridiculous.

“...identify opportunities and advocate for the development of community-based renewable energy infrastructure to achieve a goal of meeting at least 10 percent of overall community-wide energy needs (including transportation, heating, and electricity) via such infrastructure by 2035.”

The ordinance sponsors define “community-based” as energy created “within the community or nearby region.” Setting aside transportation and heating – which use more energy than electricity – this could require the construction of 400,000 MWh worth of power generation by 2035, assuming community demand does not increase.

Currently, the largest non-hydro source of energy in Spokane County is the waste-to-energy plant, which creates about 61,000 MWh of non-fossil electrical generation. Spokane would need to build about seven of these plants to meet the existing demand, building a new plant every two years until 2032 to meet the goal.

There are no wind farms currently in Spokane county because the county is unsuited to efficient wind energy production.

The ordinance text mentions increasing “rooftop solar,” but it ignores the reality that solar energy represents a tiny amount of energy generation in Washington. Statewide, Washington’s total solar production amounts to 727 MWh. If rooftop solar were used to meet just one-quarter of Spokane’s community-based energy, it would amount to 137 times as much solar generation as currently exists in the entire state of Washington.

Further, rooftop solar is the most expensive source of non-carbon energy production. The energy cost analysis most often cited by the environmental community, from Lazard, shows rooftop solar generation costs between \$187 and \$319 per MWh.

As noted, Washington has the worst level of solar irradiance in the lower-48 states. Choosing a point toward the higher cost end of \$275 per MWh (still not the highest), would be more than four times as expensive as the highest-cost wind energy and natural gas generation. Generating 100,000 MWh of rooftop solar electricity would cost \$27.5 million a year, or \$126 for every Spokane resident per year for what would amount to less than three percent of the total electrical demand in the city.

As Lazard notes, rooftop solar also has the highest cost of any energy source to reduce carbon emissions. Compared to natural gas, rooftop solar costs \$284 to reduce one metric ton of CO₂. Compare that to the current cost in California under its cap-and-trade system, where it costs \$15 to reduce one metric ton of CO₂.

Worse, this is the average cost for the country, but solar generation in Spokane is much less effective than the national average. At best, rooftop solar generation wastes 95 percent of the funding spent on it, achieving only one metric ton of CO₂ reduction for every 20 metric tons of reduction we could otherwise receive. Those who actually believe that climate change is serious environmental problem would not waste 95 percent of funding in ineffective efforts to reduce CO₂ emissions.

Wind and solar generation must also be backed up by reliable energy sources that can be turned on whenever the sun doesn’t shine or the wind doesn’t blow. The ordinance would only allow Spokane to use new “low-impact” hydro or biomass to meet that demand. Storage batteries could also be used, but they are extremely expensive and have not been used to provide power in any meaningful way. Those costs to back up solar would be imposed on ratepayers on top of the already high cost of the panels, wasting more money that could have gone to reducing CO₂ emissions.



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Conclusion

The Spokane ordinance as proposed is a very poor policy approach to cutting carbon emissions. Without addressing all the problems proposed in the ordinance text, if enacted it:

- Would impose huge increases in energy costs for Spokane residents, and promises of additional, but unquantified, government spending with no source of revenue to back up those promises;
- Contains false and unquantified claims about energy markets and climate change to justify those costs;
- Provides no estimate of how much climate change impacts would be reduced or how Spokane residents would benefit from the taxes and money spent on the plan;
- Contains language that denigrates Washington's largest sources of carbon-free energy – hydro and nuclear power – while promoting the most expensive and least effective alternatives;
- Would waste of millions of dollars on costly and ineffective energy sources like rooftop solar panels instead of focusing on technologies that yield significant reductions in CO2 emissions for a low cost.