NW Energy Coalition
for a clean and affordable energy future

Enhanced spill: Consumer bills and CO_2 emissions

An enhanced spill experiment has been proposed by state, federal and Tribal salmon scientists.[i] The exact scope of the test is being finalized. In the meantime, an analysis of a much larger reduction in hydrosystem output can serve as a benchmark for effects on consumer bills and greenhouse gas emissions.

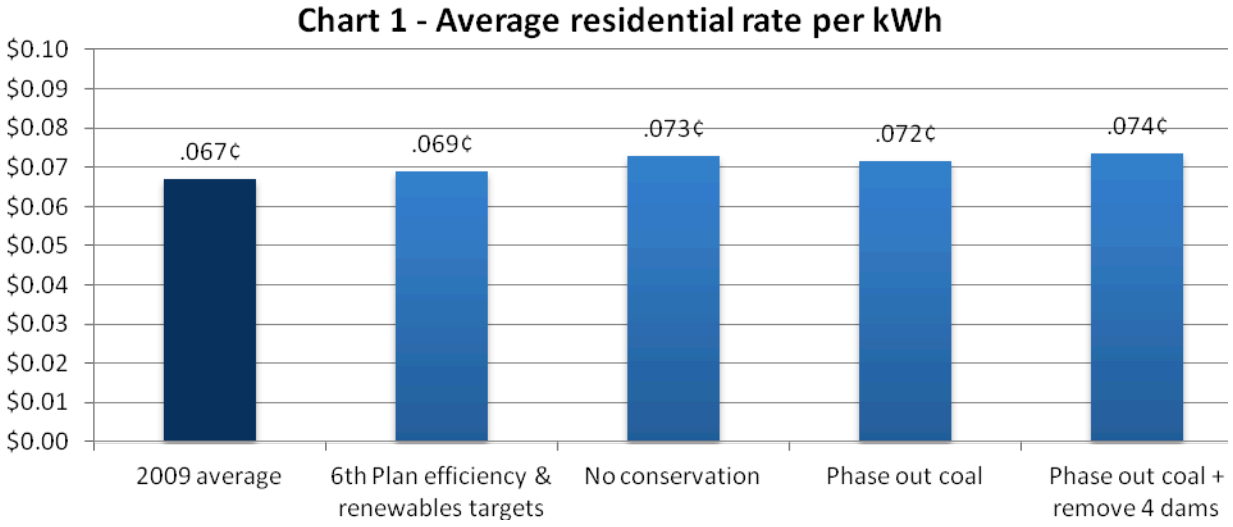
In preparing its 6th regional plan (2010), the Northwest's official power planning agency analyzed phasing out coal generation and removing the four lower Snake River dams. The Northwest Power and Conservation Council compared then-current rates, bills and emissions to those resulting from:

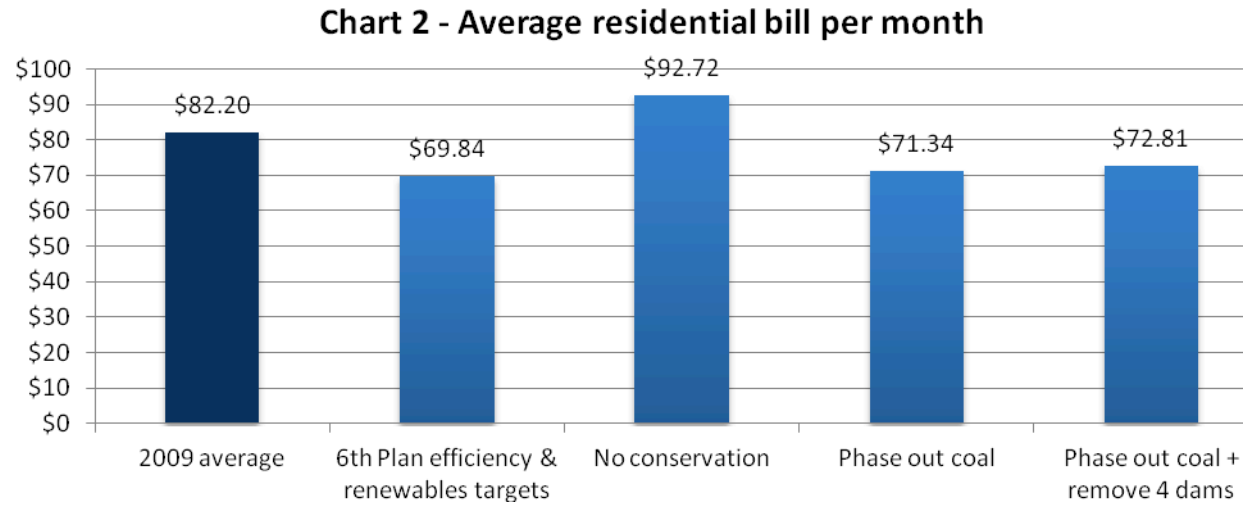
- Meeting 6th Plan energy efficiency and renewables targets, and
- Doing so while replacing both the coal-generated power in the system and the roughly 1,100 average megawatts produced by the lower Snake dams.

Here's what the Council found. [ii]

Rates and bills

Chart 1 shows average residential *rates* rising slightly to capture energy efficiency savings, and slightly more (half a cent per kilowatt-hour) to replace coal and Snake dam-generated power. But Chart 2 shows residential *bills* actually falling substantially from then-current levels in the 6th Plan, coal phase-out and dam-removal scenarios, because consumers use far fewer kWh hours as the region meets the Plan's energy efficiency targets.



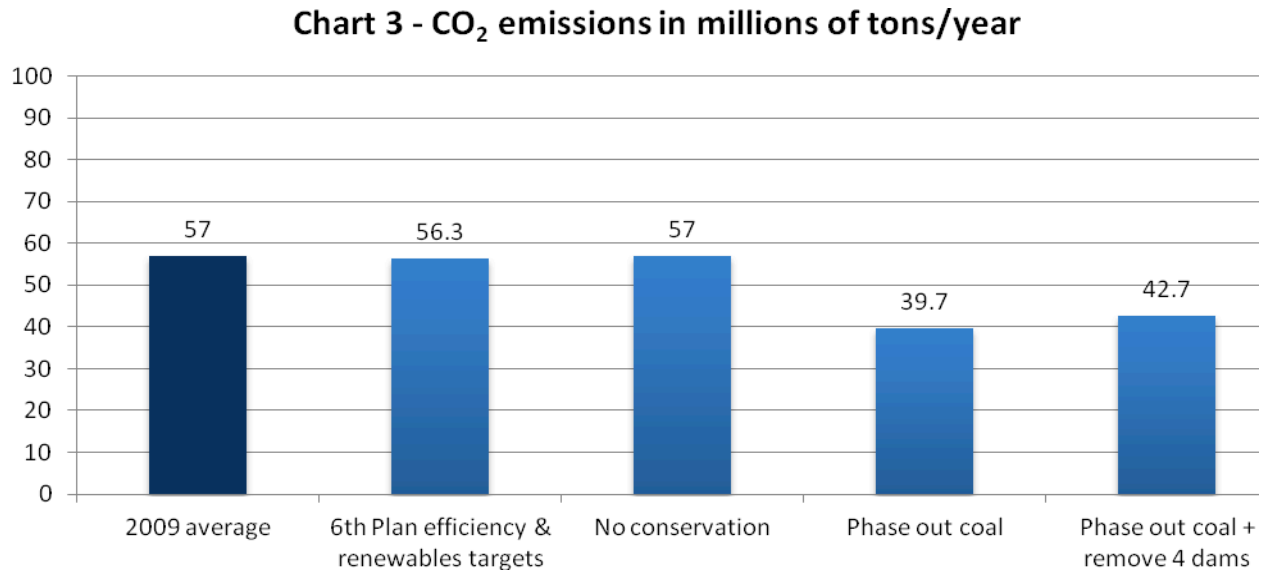


Any proposed spill experiment will likely have a much smaller impact than the modeled replacement of 1,100 average megawatts. Plus, the 6th Plan analysis overstates power replacement costs by using then-current natural gas prices as its proxy. Both natural gas prices and those of new renewable energy sources have fallen substantially, and additional energy efficiency potential costs less than either.

Greenhouse gas emissions[iii]

Chart 3 illustrates the steep reduction in CO_2 emissions from meeting the 6th Plan's efficiency and renewables goals and phasing out coal-generated power. Since the Council analysis relies on natural gas for replacement power, it finds slightly more CO_2 emissions for dam removal than coal phase-out without dam removal. Of course, a seasonal spill experiment would have negligible effect on emissions.

Besides, because the cost of new renewable energy is falling dramatically, less natural gas would be needed for dam removal or for a spill experiment. Also, zero-emission options including new distributed solar, smart grid and energy storage are rapidly expanding. Accelerating their adoption will facilitate fish and wildlife protection AND reduced carbon emissions.



Conclusion

The region's top salmon scientists predict that an enhanced spill experiment will provide substantial benefits for fish passage and survival throughout the Columbia/Snake basin.

The Northwest Power and Conservation Council dam removal analysis finds very small effects on rates, bills and carbon emissions. The smaller-scale spill experiment would have far less effect … perhaps none if increasingly affordable new clean energy sources are used for replacement power.

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[i] http://www.fpc.org/documents/CSS/CSS_2013_Workshop_Report_-_FINAL_w_presentations.pdf

[ii] The average rate and bill figures come from Tables O-2 and O-4 (we use the average rate and bill impacts in year 2029 for each scenario). The average bills and rates are levelized over 20 years to indicate their impact at the end of the period.

[iii] The gas and CO2 emissions figures come from 6th Plan Figure 10-19.