Comments in opposition to Code Change Proposal 21-GP1-156-Carbon Emissions Factors

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Code Change Proposal 21-GP1-156-Carbon Emissions Factors

ISSUES

- The NREL model doesn't adequately assess policy-driven electrification
- The model does not evaluate resiliency issues
- Emissions models are necessarily simplifications of reality
- Results are speculative, highly dependent on modeling assumptions – obvious from NREL's table (note the range) ->
- Compare to *actual*, non-baseload/marginal emissions rate: 1.66 lbs/kWh [1]
- ASHRAE Std 105 has 4 factors that could be used ranging from 0.73 to 2.04 lbs/kWh.

Scenario Name	Long-run Marginal Emission Rate (CO2e lb/kWh)
Reference, Increasing CED	**0.44**
High NG Prices, Increasing CED	1.58
Low NG Prices, Increasing CED	0.27
Low RE Costs, Increasing CED	0.13
High RE Costs, Increasing CED	0.79
Reference, Conservative CED	1.01
High NG Prices, Conservative CED	1.71
Low NG Prices, Conservative CED	0.92
Low RE Costs, Conservative CED	-0.20
High RE Costs, Conservative CED	0.80

1. eGRID 2020 data, NWPP subregion

Why is this important?

- The 0.44 emissions factor (SEF) is speculative, much lower than current reality
- Current SEF of ~1.5 has been stable for over a decade, despite adding renewables
- A 0.44 SEF assumes the very best outcomes for clean power. Power planning authorities indicate this will be very difficult to achieve:
  - Our region "shows a projected 6,500 MW capacity gap in winter and a 5,900 MW capacity gap in summer for the operating year 2031"[1] even without proposed electrification efforts
  - "acquiring only renewable resources will lead to problems since they cannot be dispatched"[2]
- SEF is a critical driver for energy codes – this cannot be overstated. An unrealistically low SEF drives builders away from cost-effective efficiency measures.

1. Pacific Northwest Utilities Conference Committee, 2021 Northwest Regional Forecast study, from "CETA July 2021 Resource Adequacy Meeting Summary"
2. Northwest Power Conservation Council, Preliminary Pacific NW Adequacy Assessment, May 11, 2021

Recommendation

Restore energy consumption as the compliance metric and

Avoid speculative future emissions factors

OR

Use 0.8 lbs/kWh as originally proposed in the 2018 WSEC TAG process and now used in the 2018 Residential performance path.