Review of: "Increasing Renewables and Building Retrofit in a Coal-Based Cogeneration District Heating System"

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Potential competing interests: No potential competing interests to declare.

The paper presents scenarios (solutions) for the decarbonization of the 2nd generation of district heating systems. A model in EnergyPlan of the Pristina energy system was formulated, and alternative scenarios were considered.

Overall, the paper is well-written and provides a site-specific study for improving the energy performance of the “oldfusion” District Heating system by adding RES and retrofitting energetically the building stock.

Few comments to consider:

In Figure 1, the EnergyPLAN model, the heat from the geothermal and solar collectors should operate as a preheating source as well as a direct heat source for the system, similar to the absorption heat pump.

In the section which illustrates the scenarios (p.6), The “Electric heaters” – this is not good practice to utilize energy, even if you have surplus electricity. A section which illustrates the energy forms and their utilization is missing. For instance, why an electric heater instead of an oil boiler?