Notes

Interdependency of thermal losses with average tank temperature as a result of varied autarky means that there is actually an optimal autarky value.

Better to start tank initially uncharged as thermal losses make it difficult to keep a sustainable charge/discharge cycle throughout the year.

It seems that based on the solar calculations and the heating demand of the excel model, the maximum autarky for a 900m2 115kWh/m2 House is actually only 17% at 0.1L/s- however I can set an autarky above this value so there must be an issue here.

My thoughts are that the autarky is increased in my model as a result of lower thermal losses meaning that colder water is charged more by the solar energy, rather than only adding a little at a time.

I am however controlling the mass flow to the house to maintain a constant 25K temperature drop.

It would be interesting to set an upper limit on mass flow to the house (say 0.1 L/s) whereby this is what the mass flow is capped at. Then calculate an autarky after the fact.

I can also adjust my autarky value until the maximum observed mass flow to the house is 0.1L/s and cap it there.