Hill City - Working and living under one roof. Eco-friendly energy solutions for the city

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Hill City is built on an artificial hill, where houses, parks, public places take place on the surface, and plants, stocks, industries are inside the hill itself. Everything is present in the city, from houses to schools, from shops to factories; it is a fully autonomous community, and every need is produced directly inside, or on the surface, or just outside.

Hill City proposes to adopt an autonomous system of renewable energy production, free from the pollution or environmentally problematic other sources, based on the in-site creation. This energy should satisfy all the requirements, so houses, school, shops, infrastructures, factories. Will it be possible?

There are two possible alternatives for the choice of the location of Hill City:
- Swiss-European case, with less hours of insolation and more precipitations;
- Arabian case, in different conditions of space, climate, territory and culture: more insolation, less precipitations.

Sources of energy analysed:
- Perovskite solar panels
- Macro and micro-hydroelectric
- Wind energy
- Energy from wastes: pyrolysis, biomasses and biogas
- Geothermal, but only in complete safety and at low depth
- Innovative sources: algae powered buildings and piezoelectricity

Both alternatives, if geothermal energy is included, meet the targets and should be taken in consideration; the European one, however, offers a larger amount of energy produced and could be the best to follow. But the best way of choice is the actual necessity: Hill City could build a new type of community where needed.

In the European case, the total amount of energy produced is 277 GWh/year.

In the Arabian case, the total amount of energy produced is 216 GWh/year.