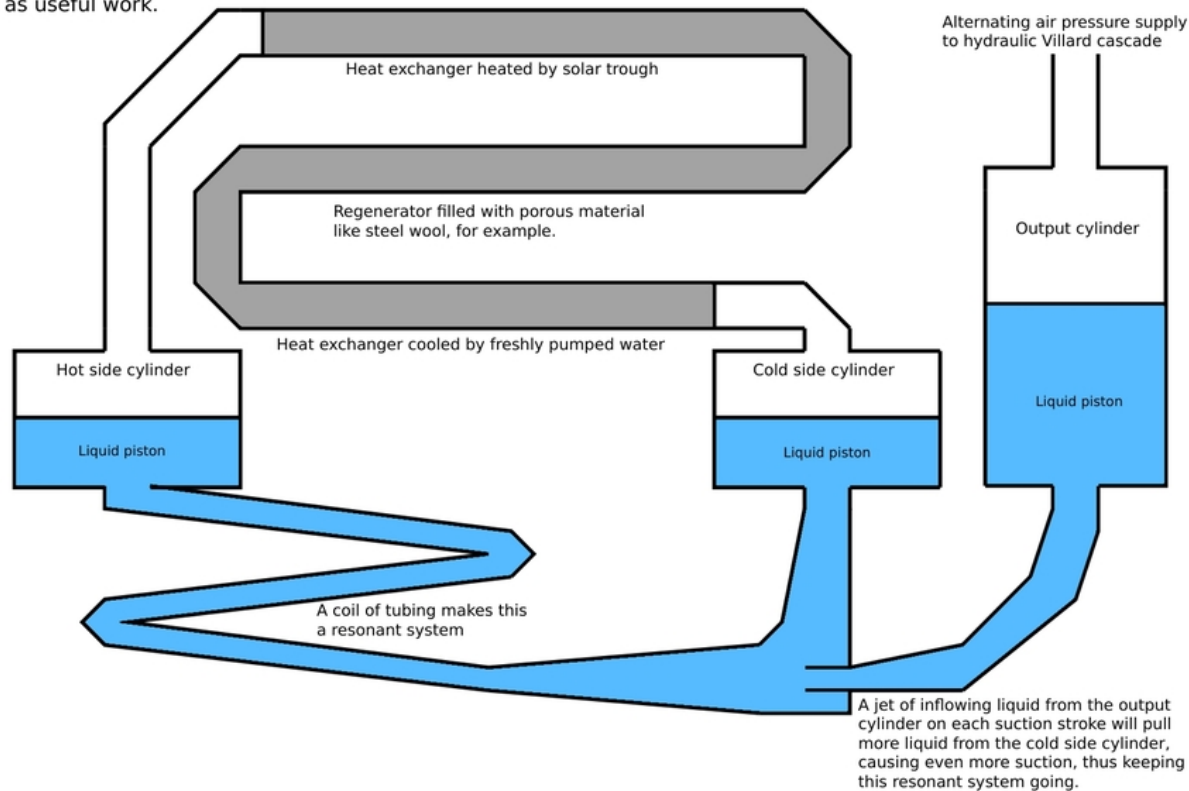


# 1/2 Cascaded Fluidyne Solar Pump

Using solar heat, a system like this can pump water from wells of any depth, cheaply and reliably.

**Fluidyne engine:**

In essence a Stirling engine with liquid pistons, supplying alternating air pressure as useful work.



**Solution**

**The cascaded Fluidyne pump**

Designing a pump to run on renewable energy is difficult. Solar energy, doubly so. Assuming, on a moderately sunny afternoon, an insolation of 750 watt per square meter, about equal to one horsepower, and also knowing this energy is absorbed as heat and converted into motion at an assumed efficiency of 33%, which is more than any affordable solar panel can manage, an area of 15 square meters would be necessary to match the power output of a 5 HP pump engine. That's not very portable. For a portable system then, the inhabitants of Bihar, unfortunately, will have to make do with a much slower system than what's currently available to them, should they choose to use this system. Furthermore, doing this

electrically would be prohibitively expensive, so a purely mechanical solution, preferably with as few

2/2

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Creative's profile



thomaslust

**thomaslust**  
Student