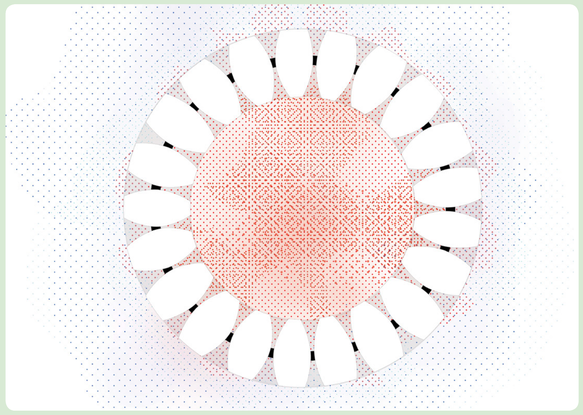
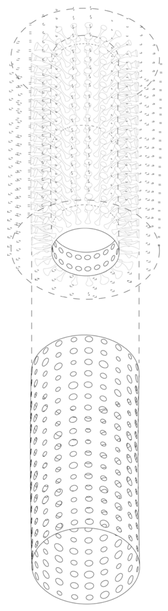
HOW DOES IT WORK?

1. Rør is made up of autonomous pneumatic structures which generate energy through solar radiation and human interaction. This energy is harnessed using solar updraft tower technology.

2. The structures consist of an inner and outer membrane. The space between these membranes are inflated with air to hold their form. This inflated structure houses an inner air chamber. Air passes in and out of this chamber through conical shafts. Each shaft is fitted with a microturbine to respond to pressure differences between the inner chamber and outside air.

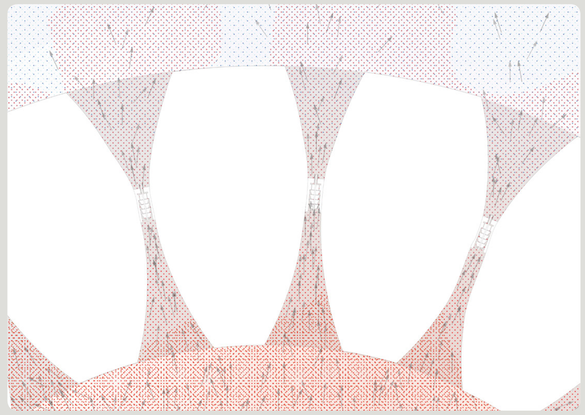


3. An exploaded axonometric diagram showing the arrangement of inner and outer membranes conical shafts and corresponding micro turbines.

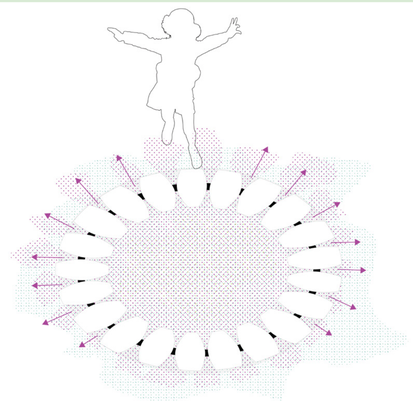


4. During the day, solar radiation heats up the air in the inner chamber. The induced pressure difference forces air through the shafts and powers the turbines in a process known as “The Chimney Effect”.

The rising warm air creates a low pressure system at the base of the chamber, which intern will suck in air from the bottom conical shafts activating those turbines as well.



5. The process of air pressure differentiation can be accelerated through human interaction. Jumping on the tubes will rapidly increase and decrease pressure differences within the inner chamber.



6. The electricity generated by each tube is conducted to an electrical transformer embedded at the end of each tube, which is then conducted to the city grid.

It is estimated that Rør would generate 14,134 kWh annually through passive solar energy, while human interaction energy is estimated to generate an additional 3175 kWh per year.