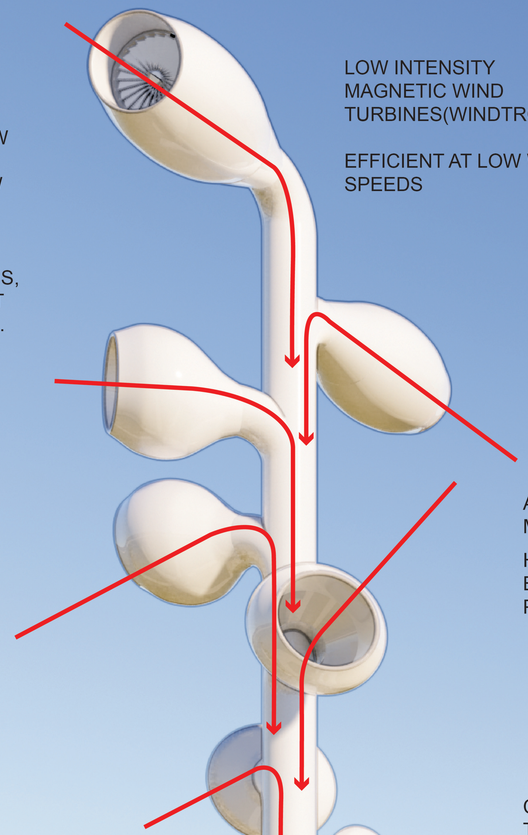
AIRPODS

THE AIRPODS CLUSTER FOCUS ON THE POWER OF WIND. IT HARNESSES IT IN TWO FORMS – GENERATING POWER USING LOW INTENSITY TURBINES, PASSIVE HEATING /COOLING BY SHALLOW GEOTHERMAL VENTILATION SYSTEM THAT CAN PROVIDE PASSIVE TEMPERED AIR TO THE SURROUNDING NEIGHBORHOODS, THE ART AND CULTURE DISTRICT AND THE REPURPOSED U-HALLE.



LOW INTENSITY MAGNETIC WIND TURBINES(WINDTRONICS)

EFFICIENT AT LOW WIND SPEEDS

WIND CATCHERS ORIENTED ALONG ALL DIRECTIONS.

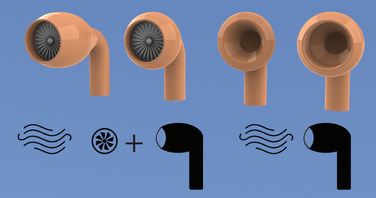
TALLER PODS WITH TURBINES ALONG PREDOMINANT WIND DIRECTIONS AS PER WINDROSE DIAGRAM PROVIDED IN BRIEF

AMBIENT TEMPERATURE RANGE MANNHEIM : 8 - 41 DEGREES

HOT / COLD AIR CHANNELED IN BY THE WINDCATCHERS FOR PASSIVE COOLING/HEATING

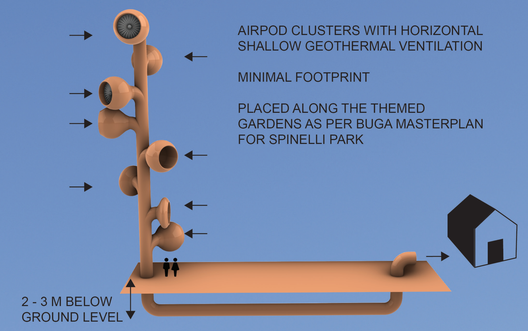
CENTRAL PIPE TRANSFERS THE AMBIENT INTO UNDERGROUND PIPES THAT FACILITATE THERMAL EXCHANGE UNDERGROUND

COMPONENTS AND TYPOLOGIES OF PODS



WIND CATCHER WITH A TURBINE PLUGGED IN TO FACILITATE SHALLOW GEOTHERMAL VENTILATION AND ALSO HARNESS WIND ENERGY TO GENERATE POWER

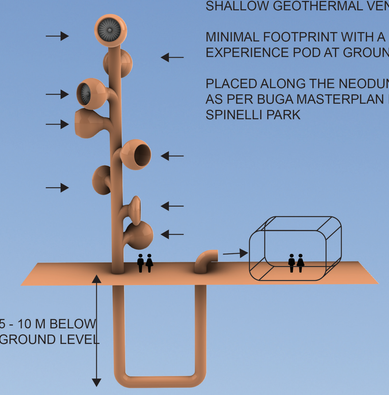
WIND CATCHER TO FACILITATE SHALLOW GEOTHERMAL VENTILATION



AIRPOD CLUSTERS WITH HORIZONTAL SHALLOW GEOTHERMAL VENTILATION

MINIMAL FOOTPRINT

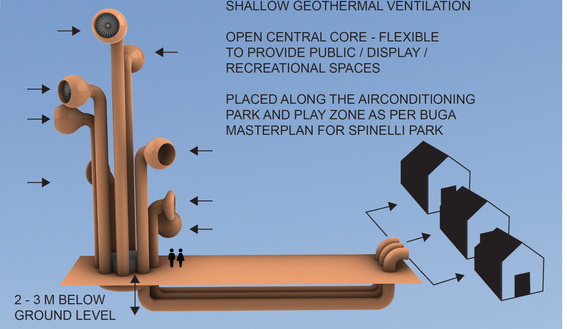
PLACED ALONG THE THEMED GARDENS AS PER BUGA MASTERPLAN FOR SPINELLI PARK



AIRPOD CLUSTERS WITH VERTICAL SHALLOW GEOTHERMAL VENTILATION

MINIMAL FOOTPRINT WITH A EXPERIENCE POD AT GROUND LEVEL

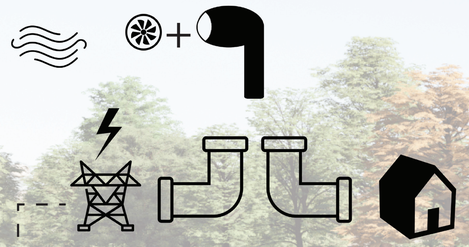
PLACED ALONG THE NEODUNE PARK AS PER BUGA MASTERPLAN FOR SPINELLI PARK



AIRPOD CLUSTERS WITH HORIZONTAL SHALLOW GEOTHERMAL VENTILATION

OPEN CENTRAL CORE - FLEXIBLE TO PROVIDE PUBLIC / DISPLAY / RECREATIONAL SPACES

PLACED ALONG THE AIRCONDITIONING PARK AND PLAY ZONE AS PER BUGA MASTERPLAN FOR SPINELLI PARK



LOW INTENSITY MAGNETIC WIND TURBINES

2 KW-H ELECTRICITY GENERATED PER MODULE PER YEAR

115 POD CLUSTERS ALONG THE MASTERPLAN

4 LOW INTENSITY TURBINES PER CLUSTER

460 TURBINES ACROSS SPINELLI PARK

920 KW-H ELECTRICITY TOTALLY GENERATED

FULFILLS 50-60% OF POWER REQUIREMENTS OF A HOUSEHOLD IN MANNHEIM

AVG CONSUMPTION OF A HOUSEHOLD IN THIS REGION IS 3.337 KW-H AS PER SOURCES

SHALLOW GEOTHERMAL VENTILATION SYSTEM

REDUCES AMBIENT TEMPERATURE BY 18-20 DEGREES USING NATURAL EARTH SINKS ROUND THE YEAR

REDUCES DEPENDANCY ON AIRCONDITIONING BY 34%

ENERGY CONSUMPTION OF AIR CONDITIONING REDUCED BY 29%

REDUCES THE AVG. CONSUMPTION OF HOUSEHOLD FURTHER.

THIS SYSTEM ALONG WITH THE POWER GENERATED BY THE WIND TURBINE WOULD MINIMIZE THE DEPENDANCY ON GRID BY ANOTHER 10-20%, MAKING THE HOUSEHOLDS RUN 80% ON RENEWABLE SOURCES

EARTH SINKS FACILITATING THERMAL EXCHANGE

EARTH SINKS CAN REDUCE THE TEMPERATURE OF AMBIENT AIR BY 18-20 DEGREES

AMBIENT AIR STABILIZED TO A TEMPERATURE OF 24-25 DEGREES (THE CONSTANT TEMPERATURE OF EARTH)THUS MINIMIZING / NEGATING THE NEED FOR AIRCONDITIONING ROUND THE YEAR FOR HEATING / COOLING PURPOSES