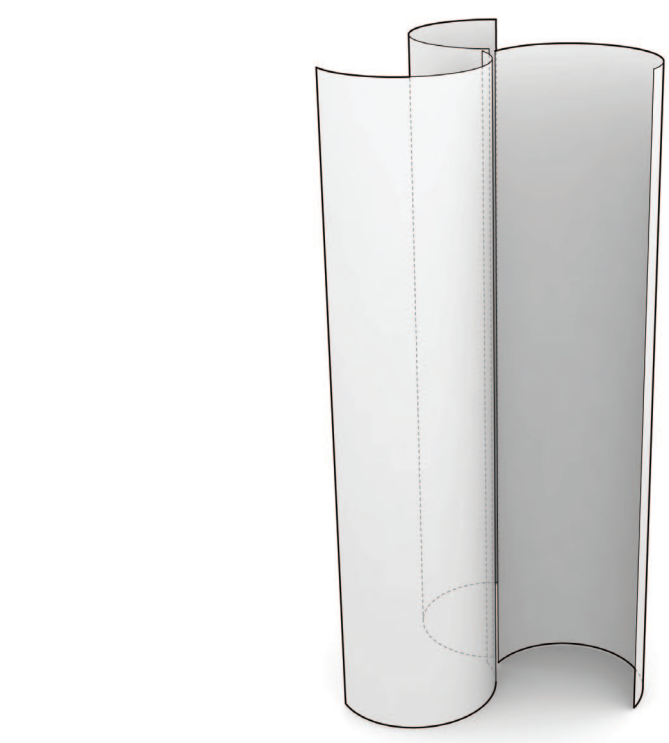


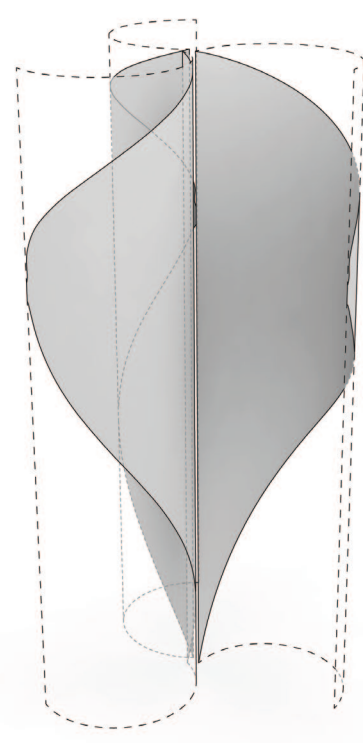


Shape evolution

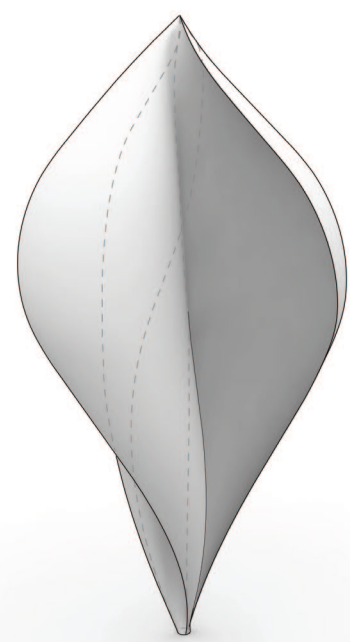


The design of this new wind turbine starts from the Savonius vertical axis type: the simplest possible kind of wind energy harvesting device.

①

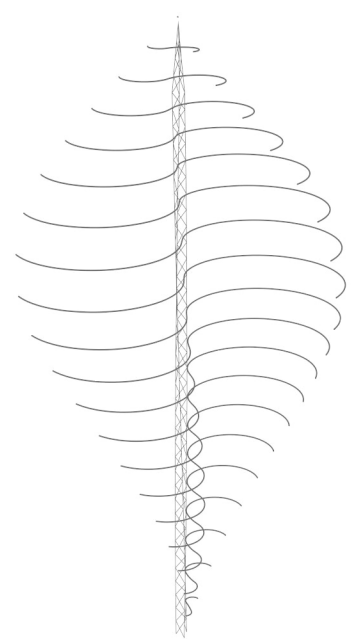


② Cutout: The shape is optimized enlarging the top in order to catch stronger winds and tapering the base where winds are not providing any relevant contribution.

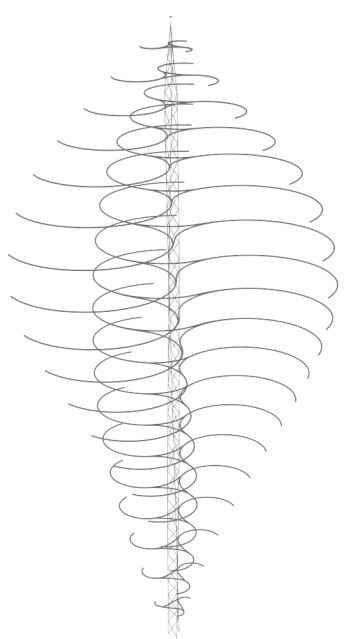


③ Final shape: The minimal footprint contributes to foster the relationship of the turbines with the human scale not obstructing the view and allowing people to come close and walk around them.

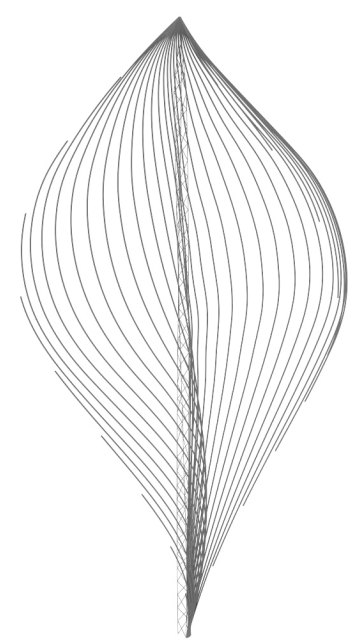
Structural diagram



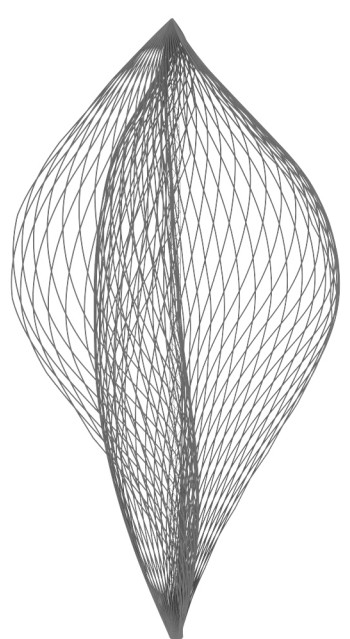
Central spiral truss column and horizontal ribs



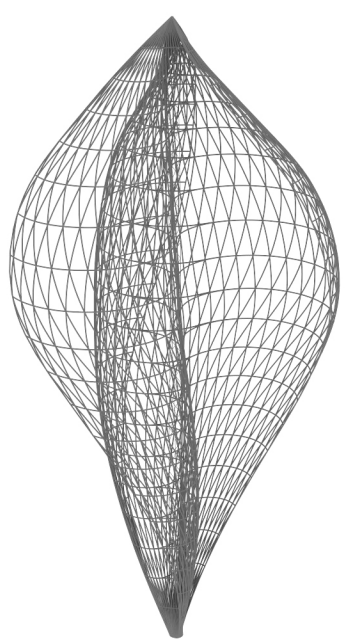
Horizontal ribs on three sides



Diagonal ribs on one side



Diagonal ribs on three sides: diagrid formation

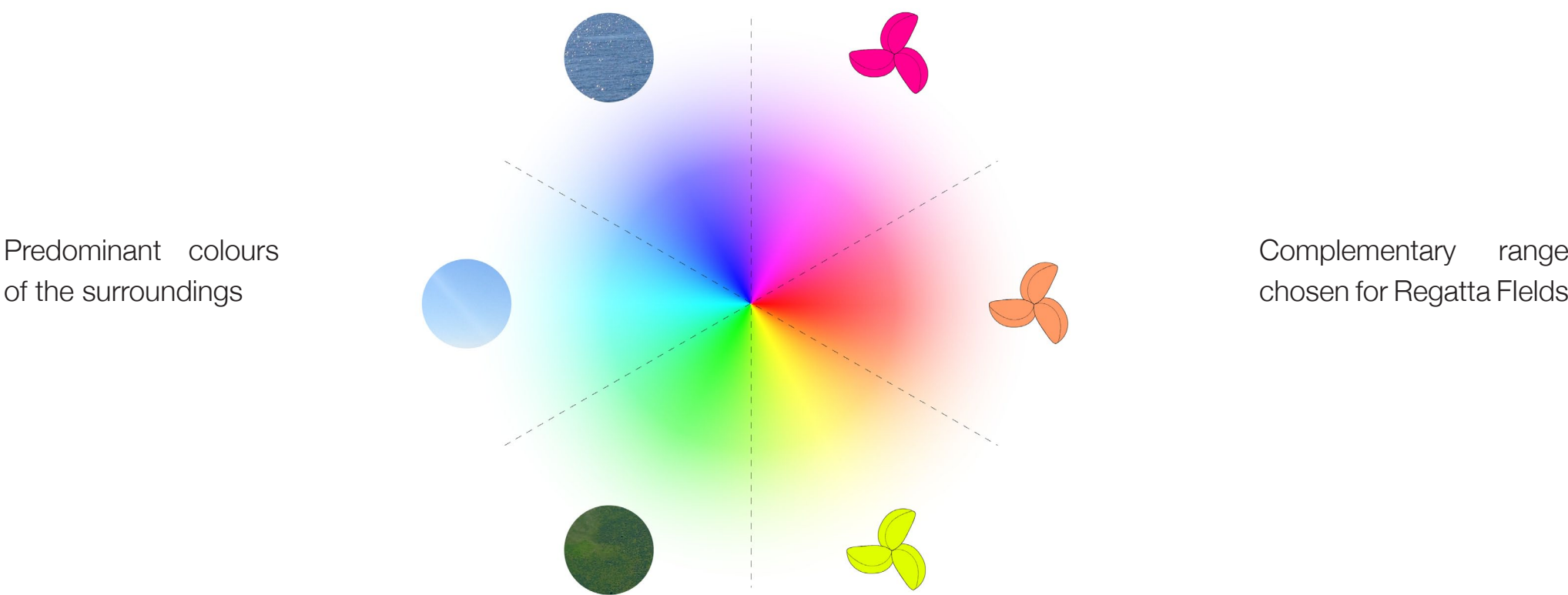


Complete structure

Wind Turbine: the idea of transparency

Both metaphorically and in reality their transparency connects the inner structural elements with the overall shape while encouraging a renegotiated perception of the surroundings. Vertical axis wind turbines are considerably quieter than the commonly used horizontal axis wind turbines. The wind turbines specifically designed for Regatta fields are improving this feature even further due to their light structure and ethereal materiality. Part of the efficiency concept is the light construction and the affordable realisation of the turbines. The structure is made of aluminium chosen for its lightness and resistance to corrosion. The sailcloth wrapping the structure is made of Polyethylene Terephthalate (PET). PET is the most common material used in sailcloth due to its low price and high durability. Both aluminium and PET are between the most common recycled materials allowing the turbines to be 100% made from discarded everyday objects, such as plastic bottles and cans. The turbines themselves can eventually be recycled at the end of their operative life.

Colour scheme



The colour range chosen for the sails of the turbines is complementary to the predominant colours of the surrounding landscape and of the city and their composition achieves visual harmony.

