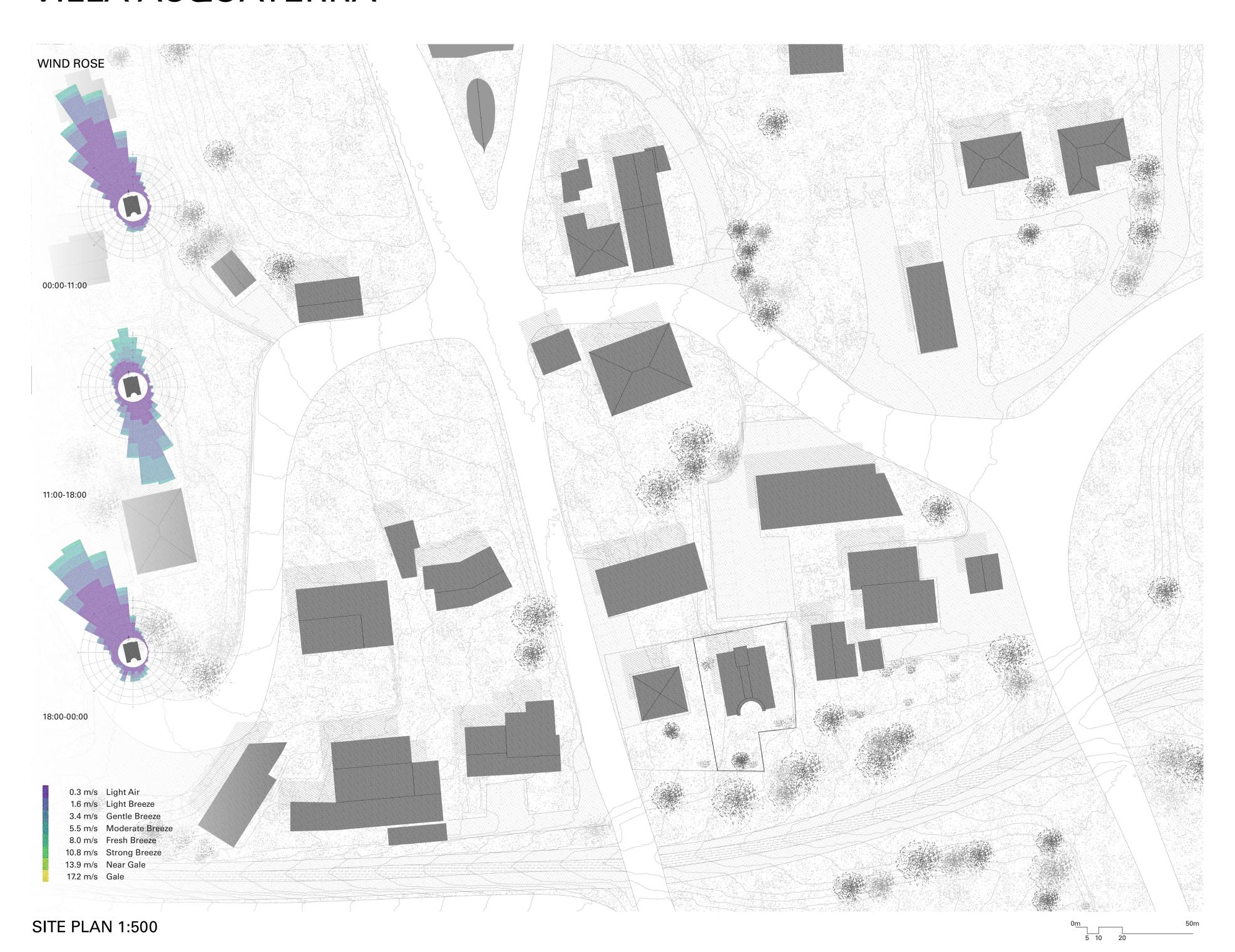
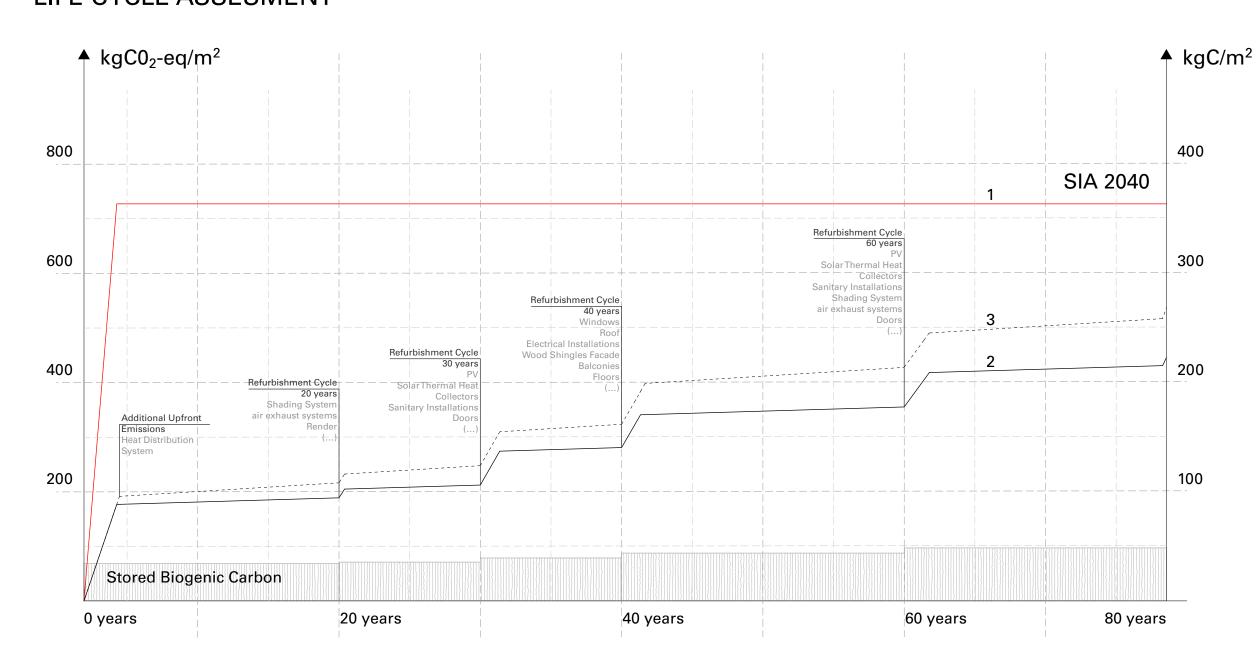
VILLA ACQUATERRA



LIFE CYCLE ASSESMENT



Explanatory Notes

- SIA 2040 Life Cycle Values, Refurbishments being accounted for in the Upfront Emissions (red line)
- Villa Acquaterra with Trombewall System (black solid line)
- Villa Acquaterra without Trombewall System Heat supply by local district heating (black dashed line)

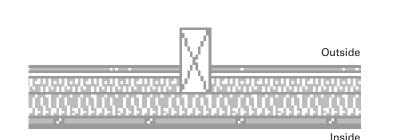
Refurbishment Cycles: Refurbishments are sorted in order of magnitude/impact of kgCO₂-eq per m²

Material List for LCA

Rammed Earth	220.98 m3
Clay Plaster	7.04 m3
Polycarbonate	0.32 m3
Solid Wood	13.69 m3
Cross Laminated Timber	41.89 m3
Wood Facade (Solid Wood)	39.95 m3
Trass Lime	46.00 m3
Natural Stone Tiles	40.50 m2
ClayTerrazzo	14.36 m3
Cellulose Fiber Insulation	104.72 m3
Copper pipes	0.67 m3
Exterior Door (Glass Insert)	3.78 m2

Apartment Doors	9.45 m ²
Interior Doors	9.45 m ²
Window Frames	21.20 m ²
Window Glass	126.54 m ²
Hotwater-System (Solar)	33.70 m ²
Photovoltaics	60.30 m ²

MAIN BUILDING PARTS



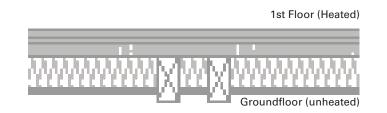
Wood Facade

Outside: Wood Cladding
Air Cavity
Cellulose Fiber Insulation
insulated installation layer
Plywood Board
Inside: Clay Render



Rammed Earth Facade

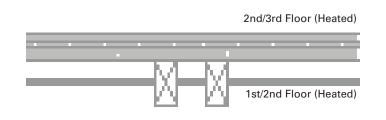
Outside: Clay Render
Cellulose Fiber Insulation
Inside: Rammed Earth



First Floor Slab

Groundfloor:Clay Render

1st Floor: Clay Terazzo
Impact Sound Insulation
Cellulose Fiber Insulation
Wood Beams
Air Cavity
Cross Laminated Timber

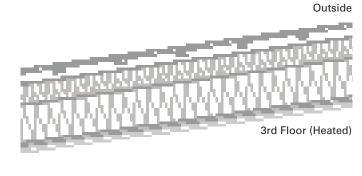


Second / Third Floor Slab

1st/2nd floor:

2nd/3rd Floor: Clay Terazzo
Impact Sound Insulation
PE-Foil
Cross Laminated Timber

Wood Beams Air Cavity Cross Laminated Timber Clay Render



Roof

Top: PV mounted on Wood
Air Cavity
PE-Foil
Cellulose Fiber Insulation

Cellulose Fiber Insulation
Cross Laminated Timber
Bottom: Clay Render

