

UNESCO Welterbe Quedlinburg

Energy Efficiency in Protected Historical Buildings

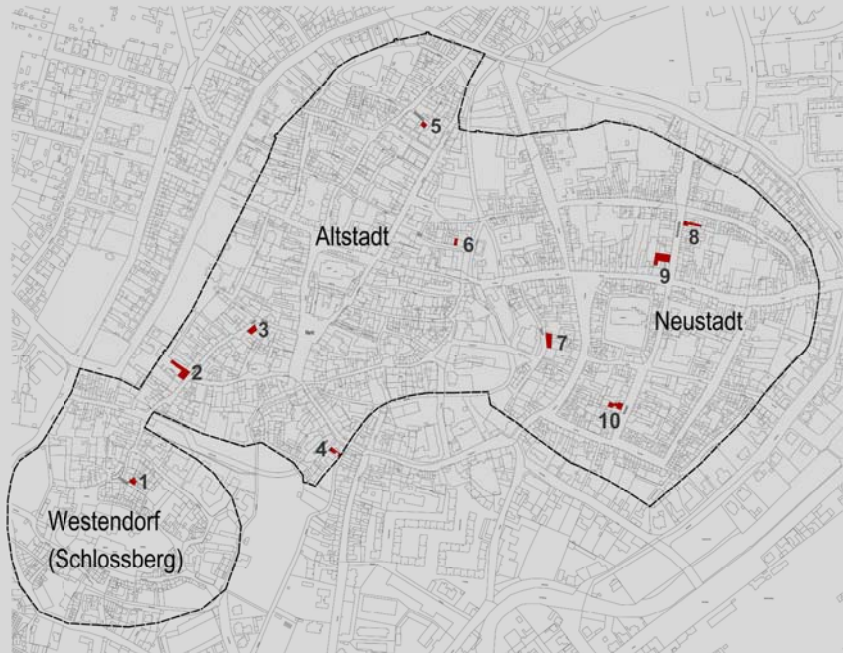
- 1** Energy Efficient Residence
- 2** A Merchant's Court Brimming with Energy
- 3** Energy Mix for a Classicist Residential Building
- 4** Combined Heat and Power Generation
- 5** Half-Timbered House with a Geothermal Source



<p>Location No. 3 Gildschaft private Client QuAK, Quedlinburger Architekturbüro Architect QuAK, Quedlinburger Architekturbüro Usage Residential (2 units) Living Area/Usable Area 190 sq mtr / 200 sq mtr First Erected, Refurbished about 1620, 2013 Restoration Costs/sq mtr 1.600 €/sq mtr (gross construction cost but excluding ancillary expenses) estimated at 60 kWh/sq mtr year Energy Required</p>	<p>Location No. 27 Hohe Straße private Client QuAK, Quedlinburger Architekturbüro Architect QuAK, Quedlinburger Architekturbüro Usage Residential (2 units), Commercial (4 units) Living Area/Usable Area 709 sq mtr / 750 sq mtr First Erected, Refurbished 1668-1700, 2007 Restoration Costs/sq mtr 650 €/sq mtr (gross construction cost but excluding ancillary expenses) about 125 kW / sq mtr year (heating and hot water), plus about 45 kWh/sq mtr year for co-generated electricity Energy Required</p>	<p>Location No. 4 Hohe Straße private Client gblar Planungsbüro GmbH Quedlinburg Architect QuAK, Quedlinburger Architekturbüro Usage Residential (1 unit) Living Area/Usable Area 210 m² First Erected, Refurbished ca. 1875, 2008 Restoration Costs/sq mtr no data available Energy Required about 80 kWh/sq mtr (plus Fireplace)</p>	<p>Location No. 15 Carl-Ritter-Straße private (2 owners in a company) Client QuAK, Quedlinburger Architekturbüro Architect QuAK, Quedlinburger Architekturbüro Usage Commercial (2 holiday apartments, 1 shop) Living Area/Usable Area 240 sq mtr / 340 sq mtr First Erected, Refurbished about 1648, 2004 Restoration Costs/sq mtr 1.200 €/sq mtr (gross construction cost but excluding ancillary expenses) about 190 kW / sq mtr year (incl. co-generated electricity of 60 kWh/sq mtr year) Energy Required</p>	<p>Location No. 5 Dove Straße private Client gblar Planungsbüro GmbH Quedlinburg Architect QuAK, Quedlinburger Architekturbüro Usage Residential (1 unit) Living Area/Usable Area 148 m² First Erected, Refurbished 1657 (i), 2010 Restoration Costs/sq mtr 1.450 €/sq mtr (gross construction cost but excluding ancillary expenses) about 28 kWh/sq mtr (electrical) Energy Required</p>
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The restoration cases date from years 2000-2012. They were realized in the Unesco Heritage Town of Quedlinburg by architectural offices resident locally. Most of the concerned buildings had previously stood empty for many years and were therefore in a bad or even ruinous state. Because of this, energy-related solutions were an integral part of the overall refurbishment effort which aimed at a long term preservation and an economical performance of these monuments.

The practice examples presented here were realized on a modest budget of €/sq mtr usable area 1.000-1.600 (construction cost incl. 19% VAT, excl. incidental costs). They exemplify „standard“ restorations whose lessons can of course apply to similar cases in comparable locations as well.



- 6** Restoration of a Mediaeval Building
- 7** Residential Loft with Micro Co-Generation Plant
- 8** Sunlight for the Farm Yard
- 9** Conversion of Garage to Residence
- 10** A Childbirth Centre Banks on Renewable Energy



<p>Location No. 9 Klinik private Client gblar Planungsbüro GmbH Quedlinburg Architect QuAK, Quedlinburger Architekturbüro Usage Residential (1 unit) Living Area/Usable Area 185 m² First Erected, Refurbished about 1410 (i), 2009 Restoration Costs/sq mtr 1.350 €/sq mtr (gross construction cost but excluding ancillary expenses) Energy Required no data available, temporary vocational residence</p>	<p>Location No. 7 Damm private Client gblar Planungsbüro GmbH Quedlinburg Architect QuAK, Quedlinburger Architekturbüro Usage Residential (1 unit) Living Area/Usable Area 220 m² / 259 m² First Erected, Refurbished about 1900, 2012 Restoration Costs/sq mtr 1.300 €/sq mtr (gross construction cost but excluding ancillary expenses) Energy Required no data available as yet</p>	<p>Location No. 38 Reichenstraße private Client QuAK, Quedlinburger Architekturbüro Architect QuAK, Quedlinburger Architekturbüro Usage Residential (1 unit) Living Area/Usable Area 180 sq mtr / 200 sq mtr First Erected, Refurbished 1660, 2007 Restoration Costs/sq mtr 1.350 €/sq mtr (gross construction cost but excluding ancillary expenses) Energy Required about 100 kWh / sq mtr year</p>	<p>Location No. 1c Reichenstraße private Client gblar Planungsbüro GmbH Quedlinburg Architect QuAK, Quedlinburger Architekturbüro Usage Residential (1 unit) Living Area/Usable Area 185 m² First Erected, Refurbished about 1900, 2009 Restoration Costs/sq mtr 1.060 €/sq mtr (gross construction cost but excluding ancillary expenses) Energy Required about 90 kWh / sq mtr year</p>
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