

The average number of days per year where air temperature is equal to or greater than 30 °C (called **Hot Days, HD**) has risen considerably over the past few decades and will continue to rise with climate change. For the region of Mödling, future climate projections, based on the **IPCC Representative Concentration Pathway (RCP) 8.5** (i.e., the worst-case scenario), are used to evaluate the increase in HD over the next three decades (**2021-2050**). The effects of the combined adaptation measures in reducing the number of HD were then simulated, which included increased reflectivity of sealed areas (i.e., roofs, walls and streets) and the addition of green evaporating surfaces (e.g., more meadows and trees, green roofs and unsealing of surfaces). The table below shows the absolute values of HD (average/maximum) for (a) the future scenario if no adaptation measure is implemented, (b) if only the municipality of Mödling implements them and (c) if all the municipalities implement the combined measures. **Blue numbers indicate HD with adaptation measures that are not significantly different from column (a).**

Municipality, place (inhabitants 1.1.2015)	(a) HD per year for RCP8.5 2021-2050	(b) HD per year if measures are implemented in only the city of Mödling	(c) HD per year if measures are implemented in all municipalities of Mödling district
	Average over the center of the municipality / Maximum value		
Mödling, Freiheitsplatz	26.6	20.1	19.8
Mödling, Hyrtl Park	16.1	13.8	10.2
Mödling (20 495)	21.6 / 29.7	17.0 / 25.9	15.5 / 24.5
Perchtoldsdorf (14 754)	15.0 / 22.1	14.5 / 21.9	9.8 / 18.5
Gießhübl (2 213)	7.1 / 12.0	6.8 / 11.6	4.6 / 8.2
Hinterbrühl (4 040)	7.4 / 15.7	7.2 / 15.5	5.1 / 12.1
Brunn am Gebirge (11 509)	19.4 / 31.6	19.2 / 31.5	13.9 / 27.8
Maria Enzersdorf (8 691)	19.4 / 27.4	18.2 / 26.6	13.6 / 20.6
Gumpoldskirchen (3 748)	17.6 / 29.2	17.6 / 28.6	12.2 / 19.3
Vösendorf (6 571)	16.1 / 27.1	16.2 / 27.4	12.5 / 21.4
Wiener Neudorf (8 932)	22.2 / 29.3	22.0 / 29.0	16.7 / 23.9
Guntramsdorf (9 111)	23.0 / 34.5	23.0 / 34.8	17.4 / 27.2
Hennersdorf (1 410)	18.6 / 28.8	18.7 / 29.1	15.0 / 24.1
Biedermannsdorf (2 846)	19.5 / 30.5	19.6 / 30.6	14.9 / 24.4
Laxenburg (2 844)	17.1 / 30.9	17.3 / 31.8	13.4 / 25.0

RECOMMENDATIONS/CONCLUSIONS

- ✓ Infrastructure adaptation needs long-term **spatial planning and specific adaptation instruments at the regional level** to improve future quality of life and to protect vulnerable groups.
- ✓ There is a substantial added value for all municipalities if adaptation to Urban Heat Islands is tackled together as a region, depending on the location and current land use of each municipality **and** the degree of implementation by **all**.