Sinks of PV generation (>0) and battery load (<0) →pm 1/22 1/23 1/21 →hp →gr kWh →b →d_e ge **-**2 **-**2 **-**2 SOC_b **-4** b_max Sources of electricity demand fulfillment 2.0 2.0 2.0 1.5 1.5 1.5 kWh pm→d_e 1.0 1.0 1.0 gr→d e 0.5 0.5 0.5 b→d_e pv→d e 0.0 0.0 0.0 de Sources of heat pump demand fulfillment pm→hp gr→hp kWh b→hp pv→hp d fh d_hw hp_max Heat pump states of charge and comfort ranges comfort ranges mod_fh mod_hw range_fh range_hw T_fh V_hw time time time