Sinks of PV generation (>0) and battery load (<0) →pm 10/30 10/31 11/1 11/2 →hp →gr kWh →b →d e ge -2 -2 -2 -2 SOC_b b_max -4 -4 -4 -4 Sources of electricity demand fulfillment 2.0 2.0 2.0 2.0 1.5 1.5 1.5 1.5 kWh 1.0 1.0 1.0 1.0 pm→d e gr→d e 0.5 0.5 0.5 0.5 b→d e pv→d_e 0.0 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 time