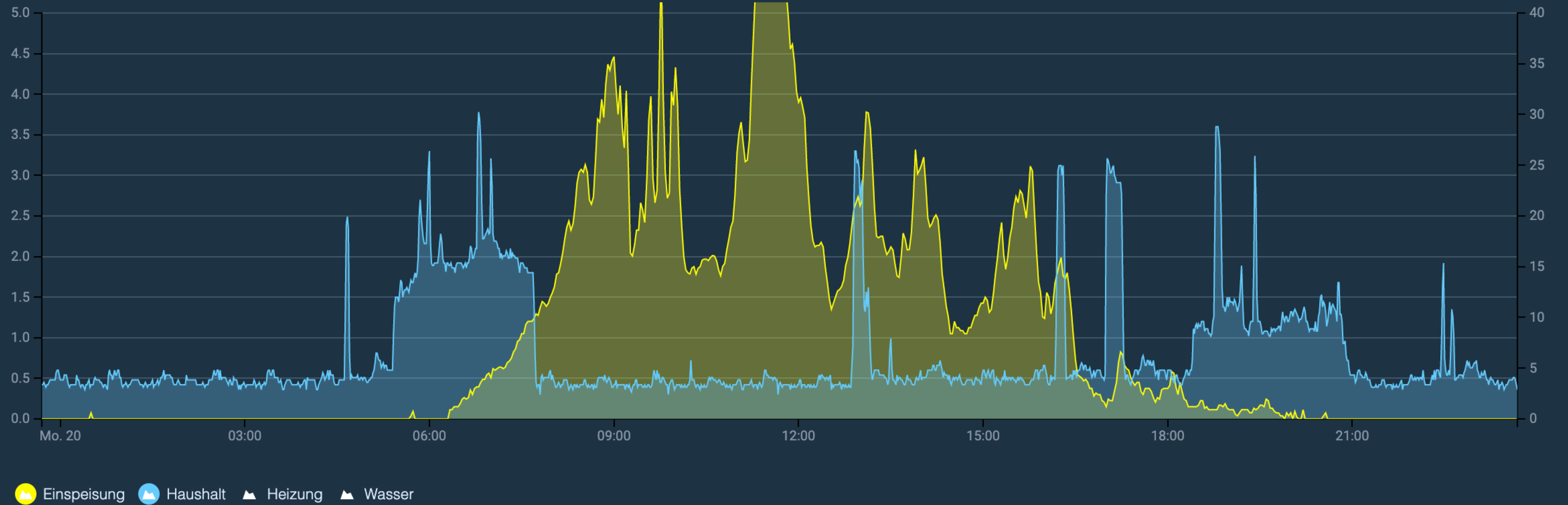


Optimisation of In-House Consumption of Solar Energy

Kai Kreuzer, openHAB Foundation e.V.

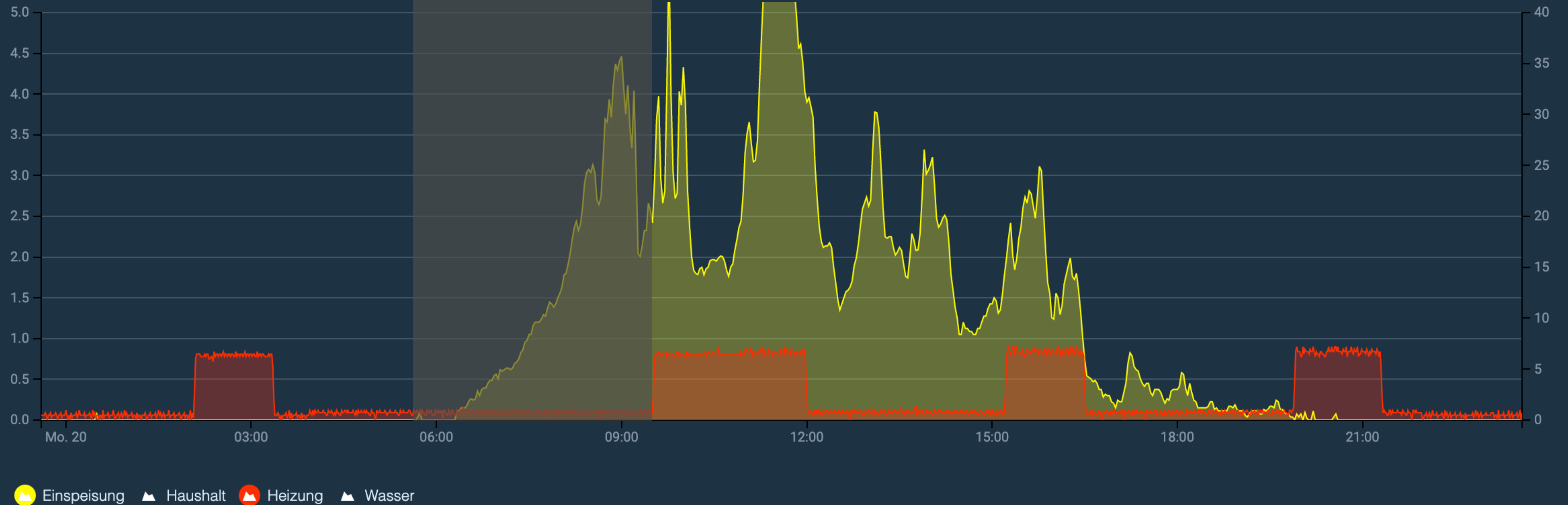
Energy Graph



Energy Visualisation






Water Heater Control



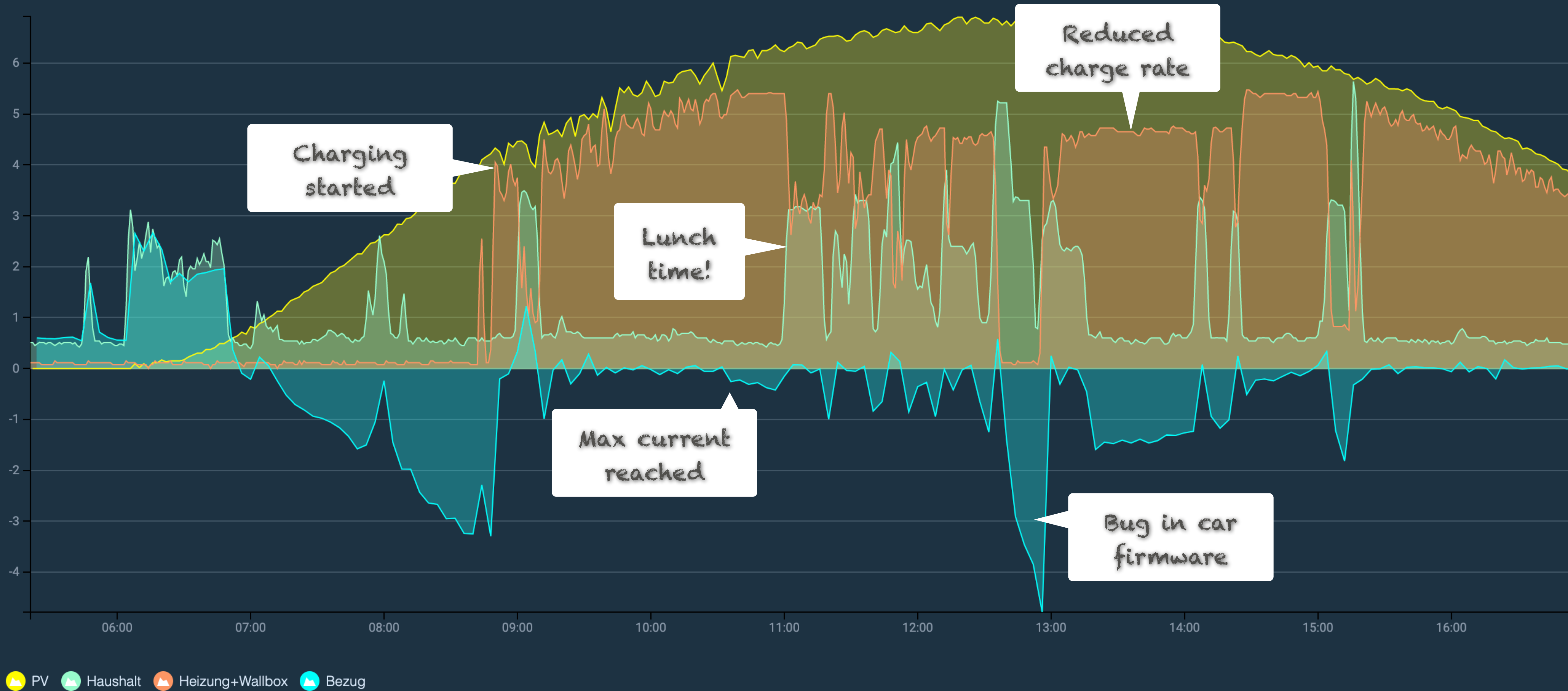
Surplus Charging



KEBA-Binding

	Wallbox aktiv	<input checked="" type="checkbox"/>
	Schnellladen	<input type="checkbox"/>
	Auto angeschlossen	OFF
	Ladeleistung	0 W
	Ladestrom	16000 mA <input type="button" value="^"/> <input type="button" value="v"/>

```
rule "Adjust Wallbox current"
when
    Item PV_Leistung changed or
    Item Haushalt_Leistung changed
then
    if(Wallbox_Ready.state==ON) {
        if(Wallbox_Quickcharge.state!=ON) {
            val surplus = PV_Leistung.state as DecimalType - Haushalt_Leistung.state as DecimalType
            logInfo("PV", "Surplus: " + surplus.toString + " kW")
            val deltaI = surplus * 1000 * 1000 / 230
            var currentI = Wallbox_MaxCurrent.state as DecimalType
            var newI = currentI + deltaI
            if(newI > 16000) {
                newI = 16000
            }
            if(newI > 6000 || (Tesla_Charge===OFF && newI > 0)) {
                logInfo("PV", "Adjusting charging current by " + deltaI.toString + "mA")
                Wallbox_Enable.send(ON)
                Wallbox_MaxCurrent.sendCommand(newI)
            } else {
                Wallbox_Enable.send(OFF)
            }
        }
    }
}
end
```



≈ 5 kWh from grid, 5 kWh to grid, 25 kWh to car (≈ 150 km)