

Microgrids & bottom-up aanpak in de praktijk

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Th!nk E


S T O R Y

Waarom microgrids?!

Systeemdiensten: nood aan **flexibiliteit** en capaciteit

Capacity Remuneration Mechanism en het probleem van "**missing money**"

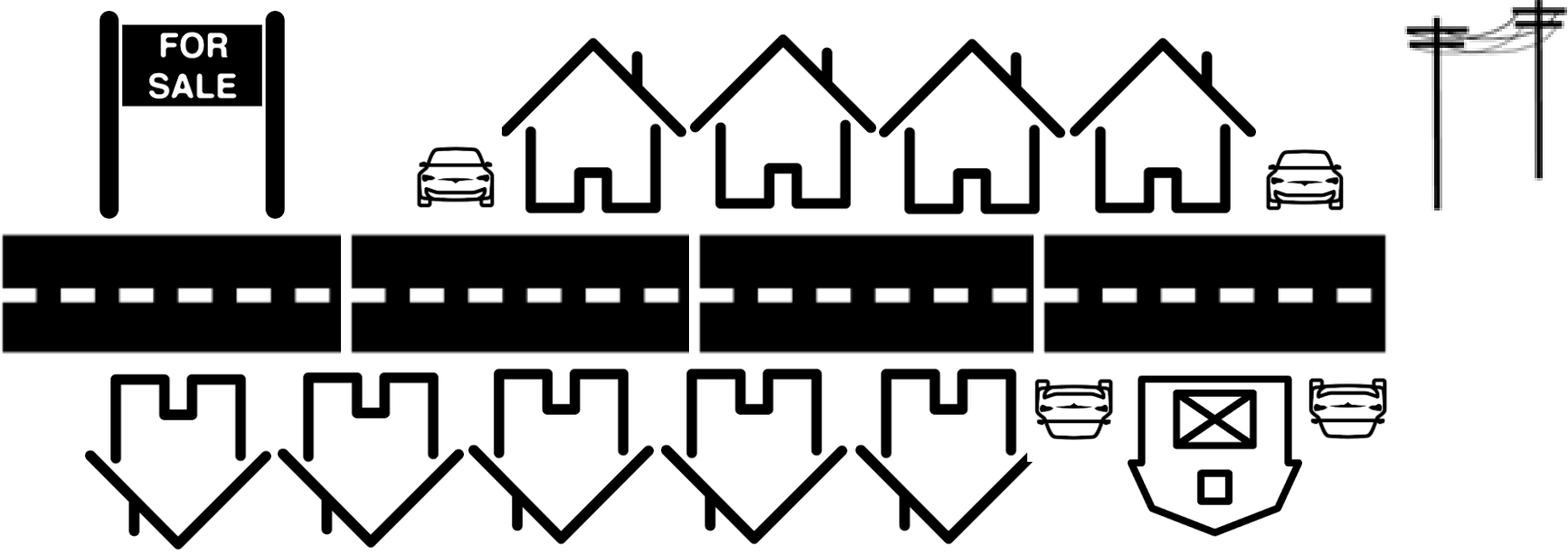
Hoe kunnen **hernieuwbare bronnen** aardgas overbodig maken?

Stoom- en gascentrale en hun **business model**

WKK

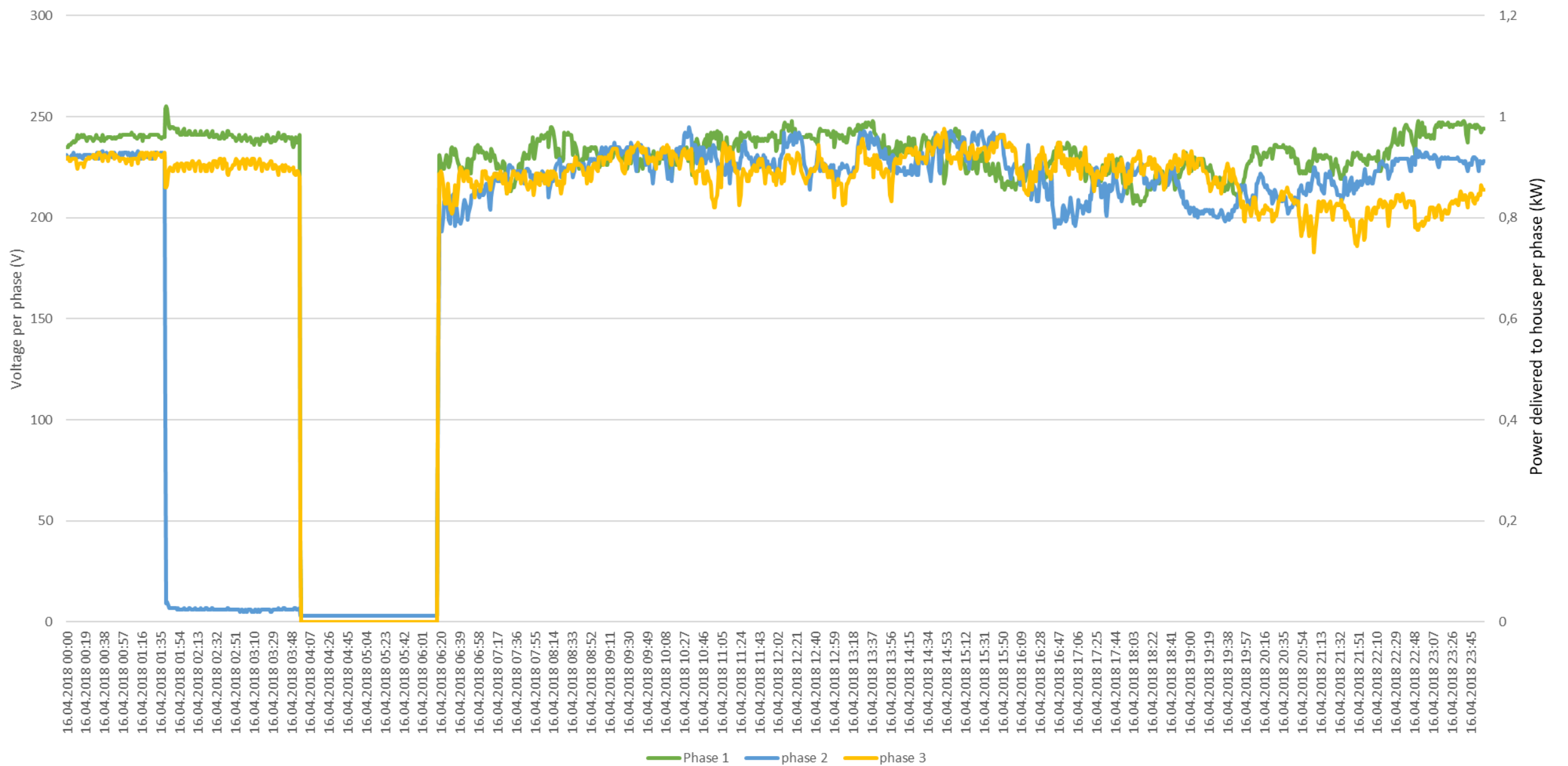
Flexibiliteit vanuit bottom-up standpunt



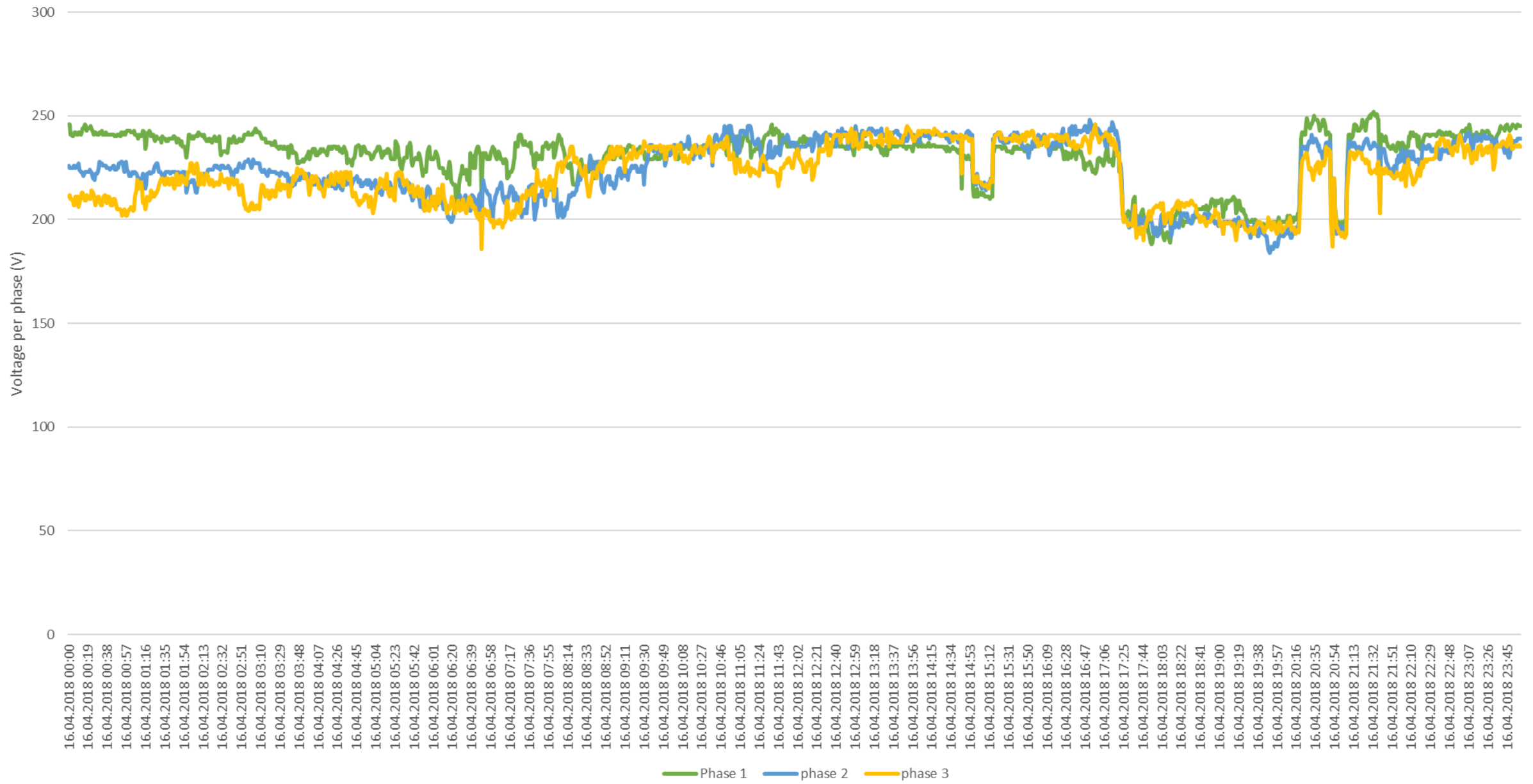




Black-out due to broken distribution cable

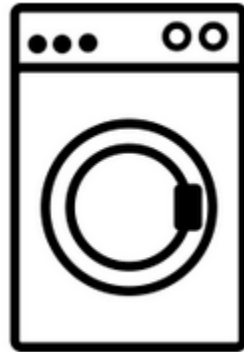
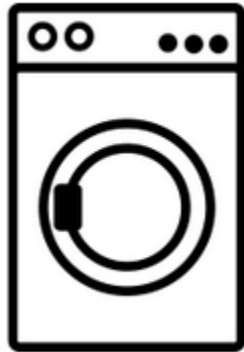


Voltage level on low voltage line

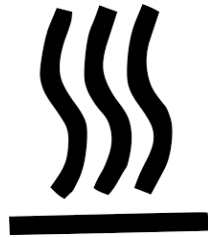


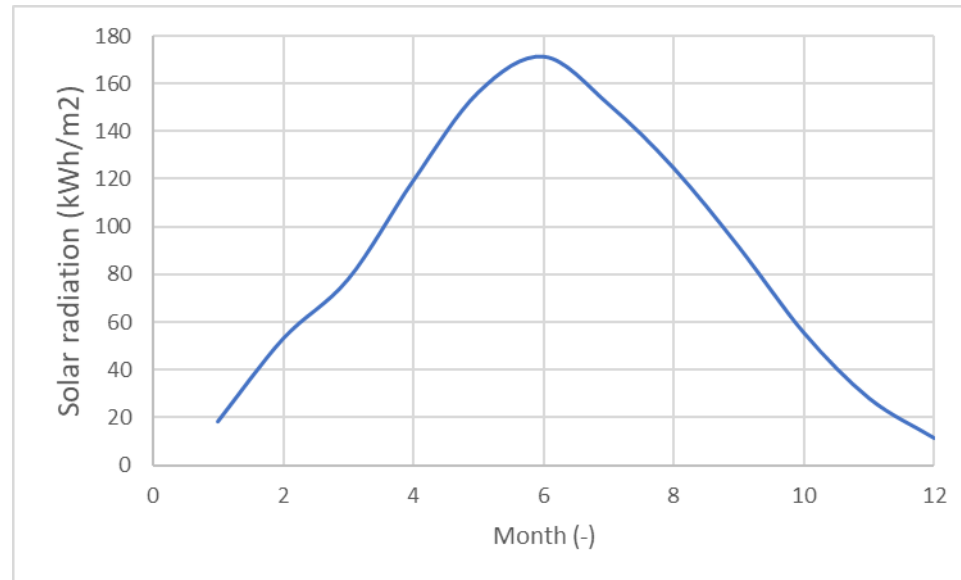
Flexibiliteit in residentiële buurt

37,1 kWh/month



275 kWh/month

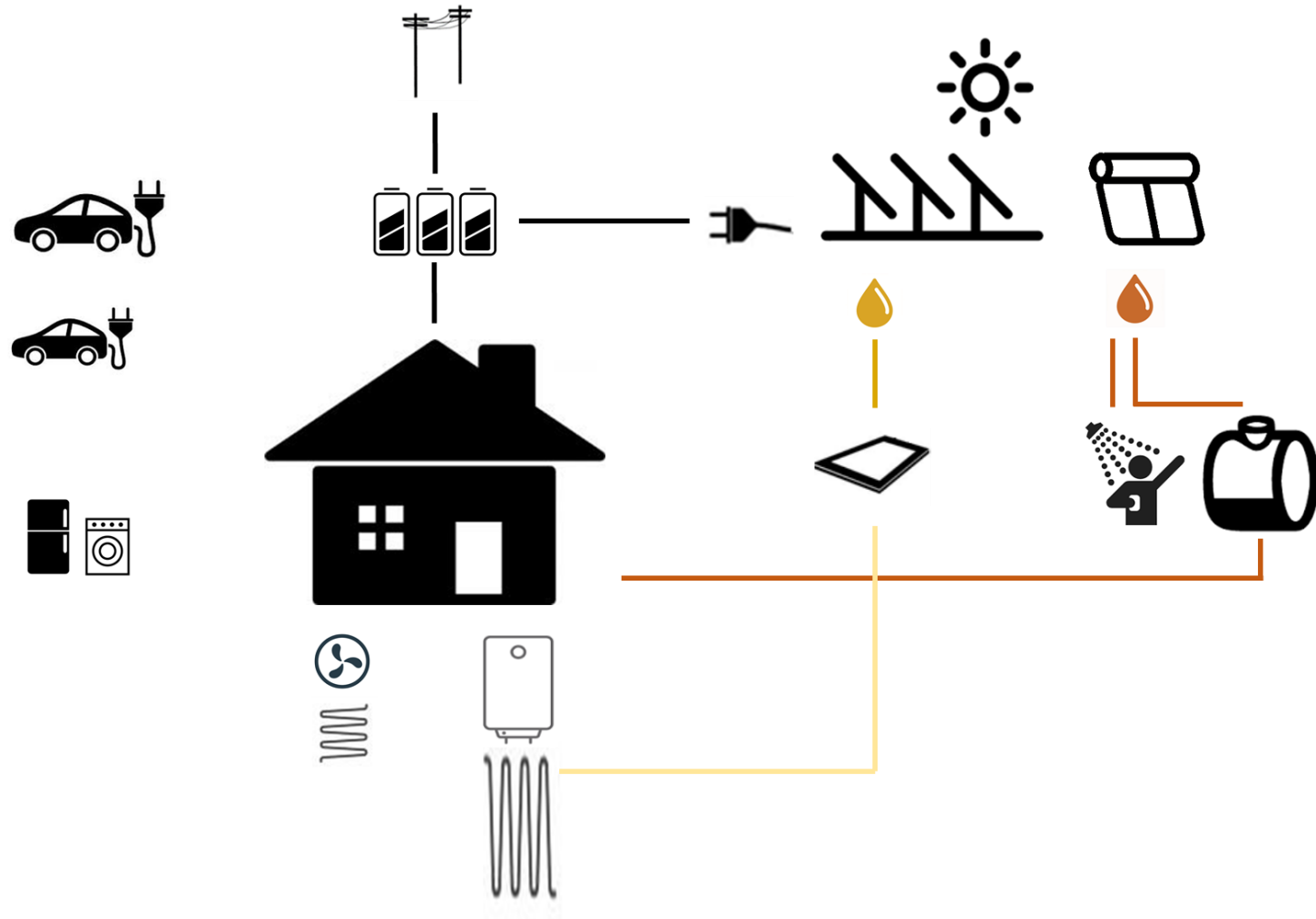




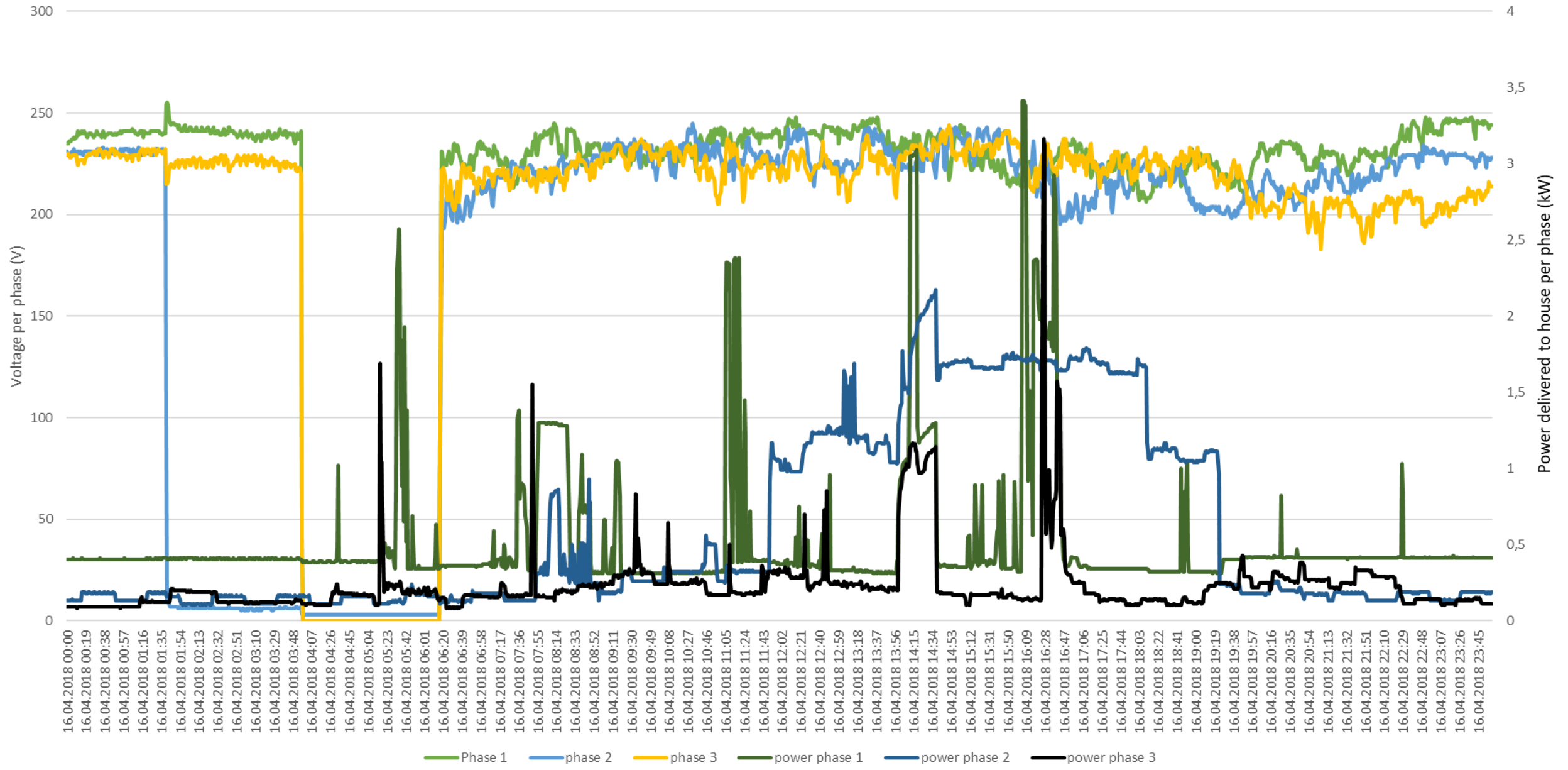
462,5kWh/month

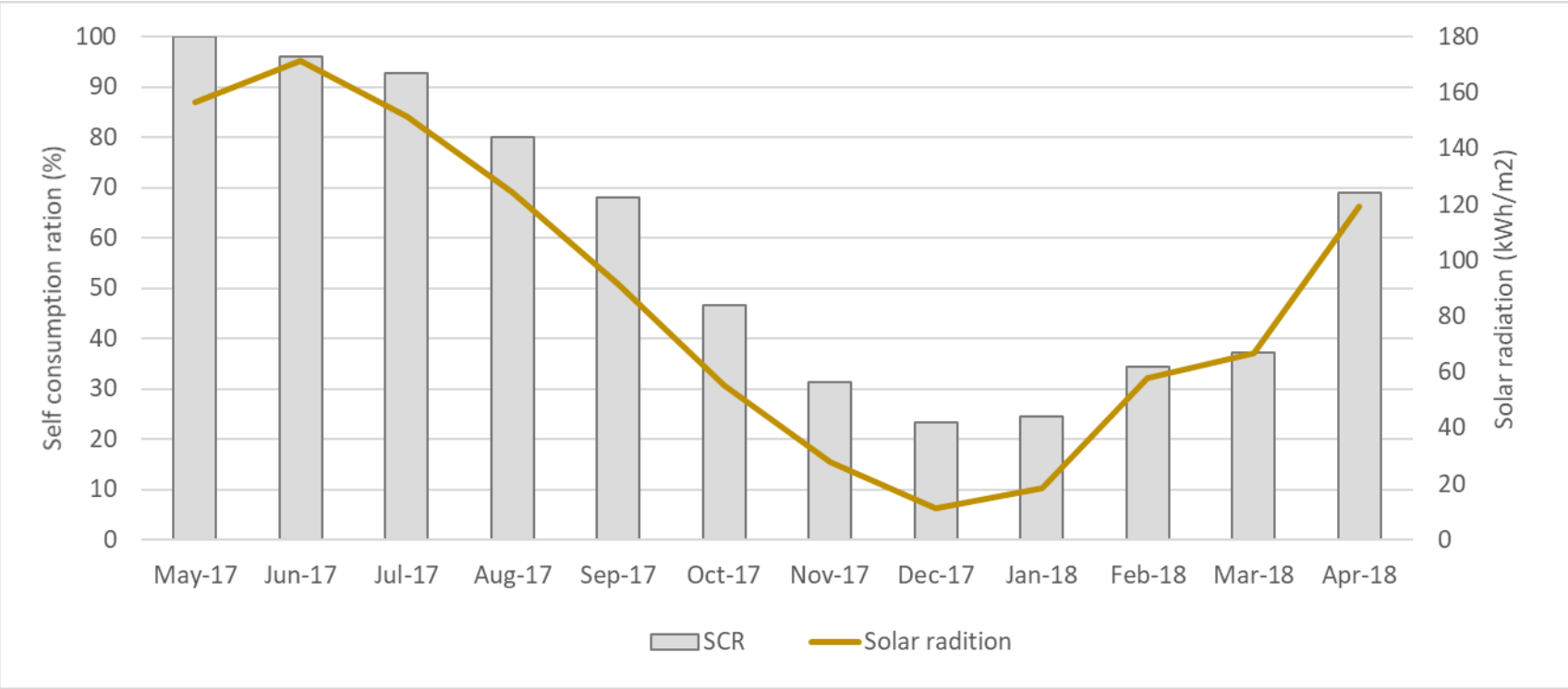


Nanogrid: STORY's Living Lab

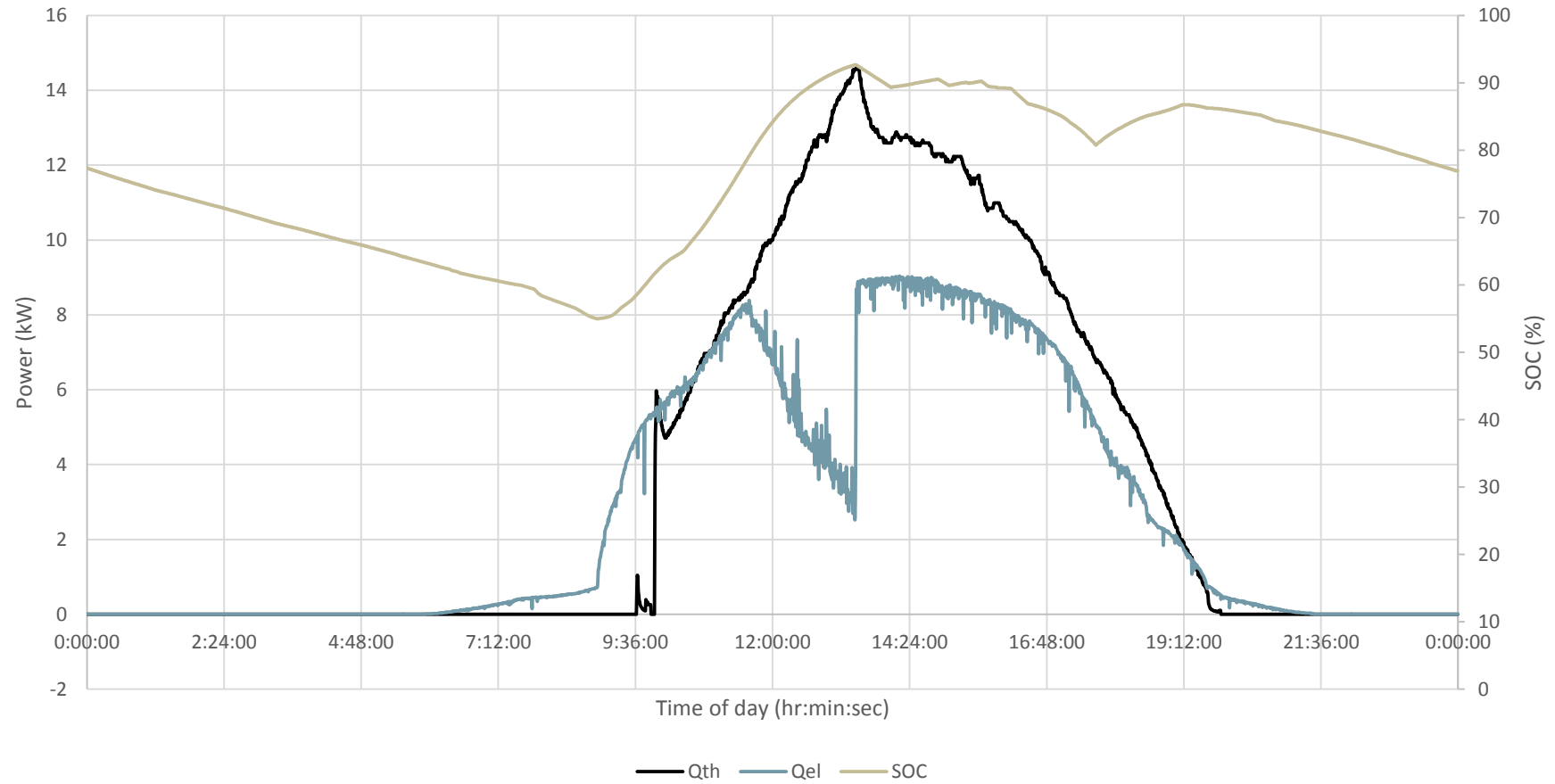


Black-out due to broken distribution cable



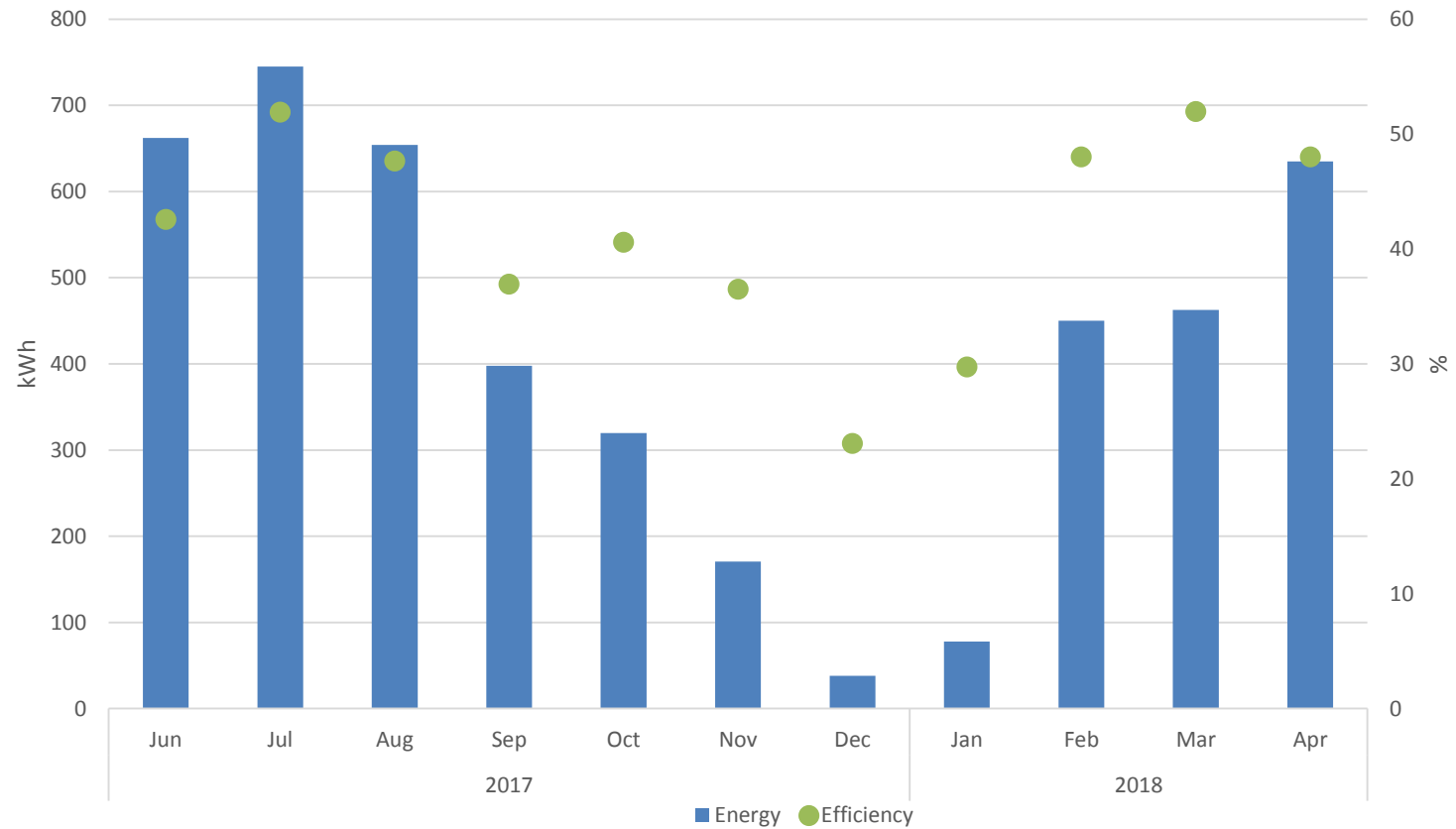


PVT on 5/5/2018

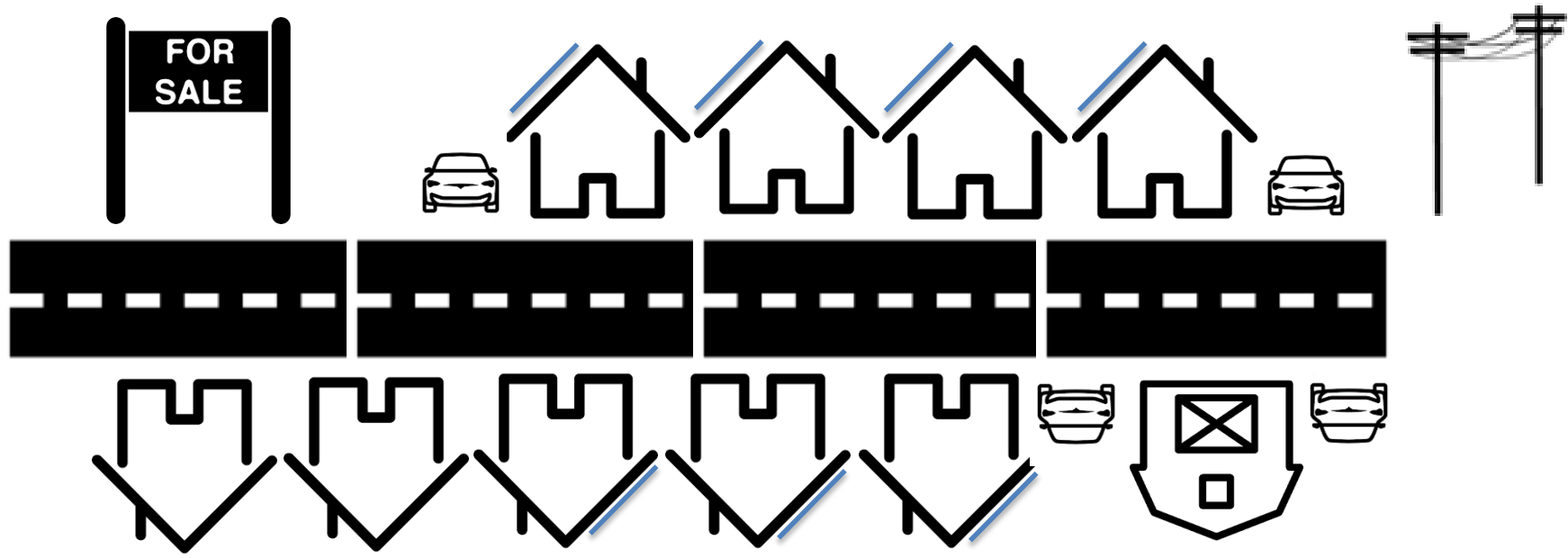


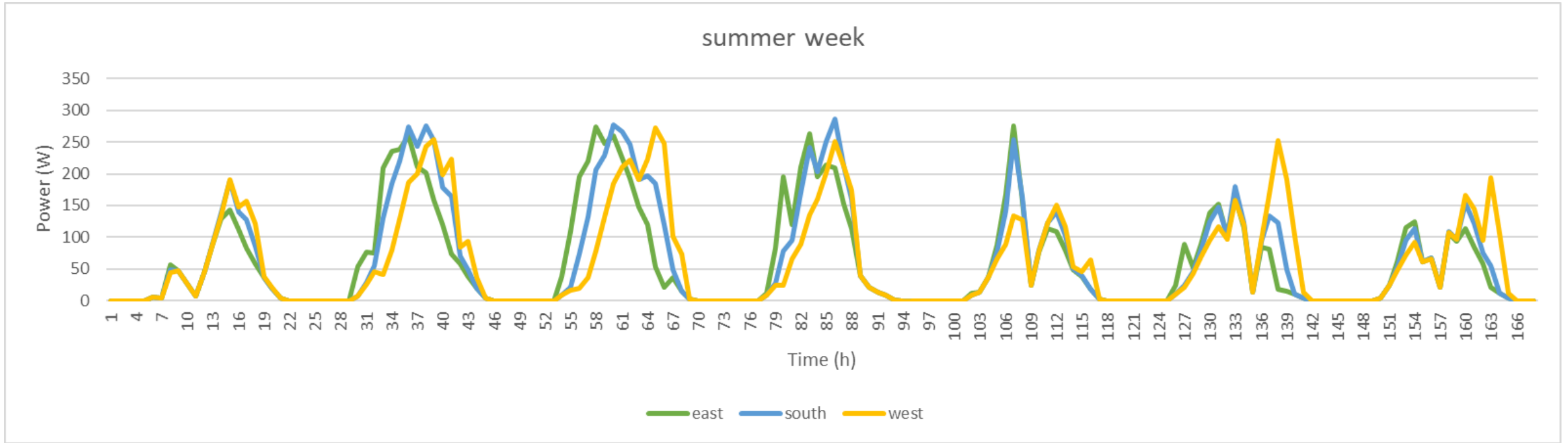
Vacuum solar collectors

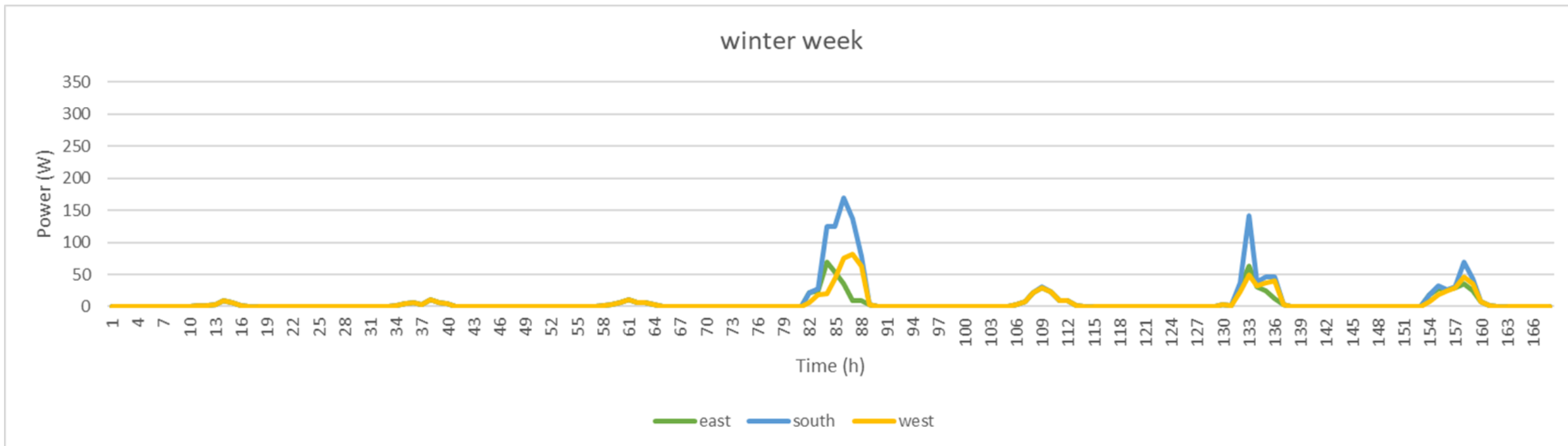
Energy production and efficiency



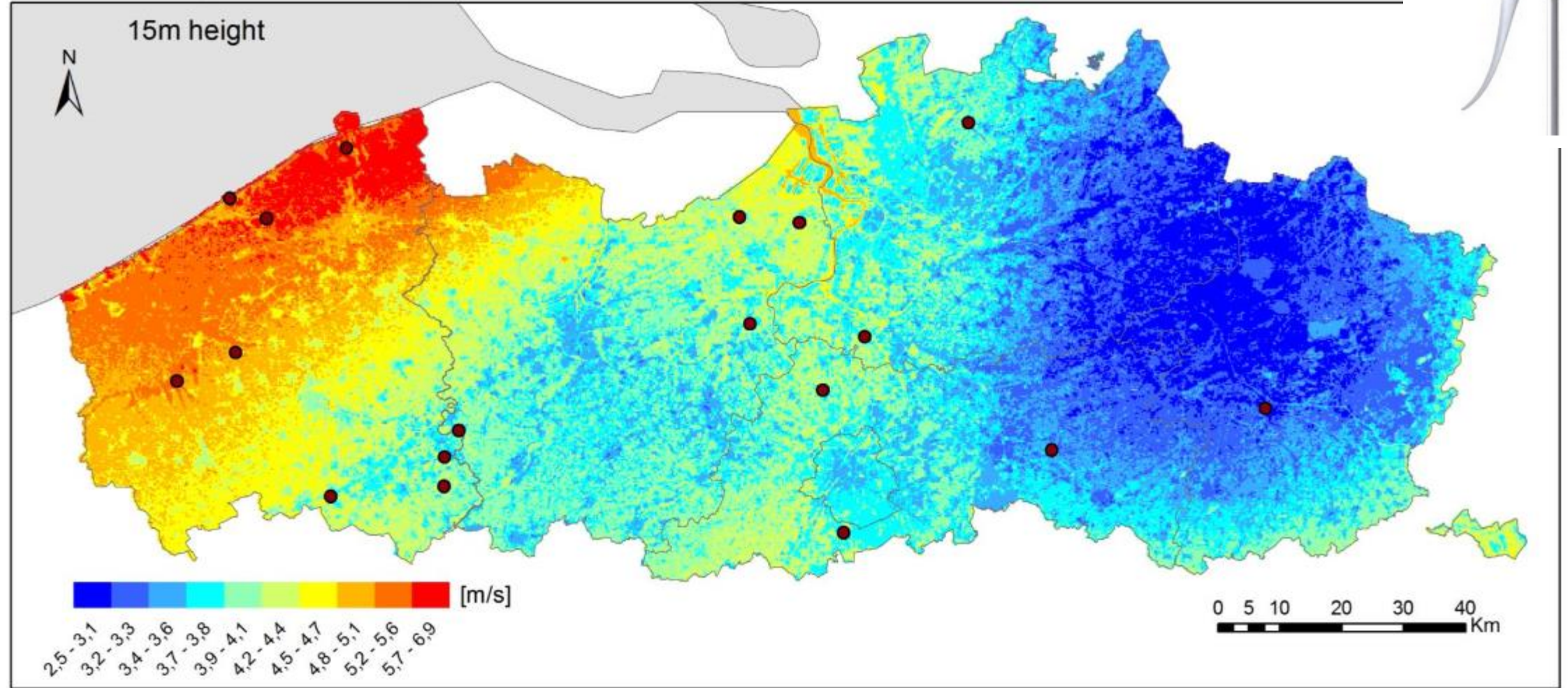
Van nano naar micro...







Annual average mean wind speed





- 9743 operating hours in
 - 7231 kWh of produced electricity
 - 9737,89 of produced heat (estimate)
- 1706,3 m³ natural gas consumption (only fuel cell)
 - $\eta_e = 41,2\%$



- Buurtbatterij
 - Power quality
 - Local balancing
 - Impact van de elektrificatie van de buurt op het net

Deferred investments ...

En dan begint het ...

De barrières

Op gebouwniveau

- **Beperking RES vermogen**
 - Wegnemen beperking kan enkel mits ...
 - Nieuw DSO financieringskader
 - Slimme Slimme Meter
- **RES oplossing voor de winter**
 - “groen” gas
 - lokale conversie windenergie

De barrières

Op buurniveau

- Lokale evenwichten
 - Straffen in plaats van belonen bij local exchange ...
 - Piekstariefmodel voor LEC
 - Zonedelen
- Ontbreken kader voor co-investeringen
 - Wettelijk
 - Verdienmodel door diensten op LV, MV, HV level

De barrieres

Op geaggregeerd niveau

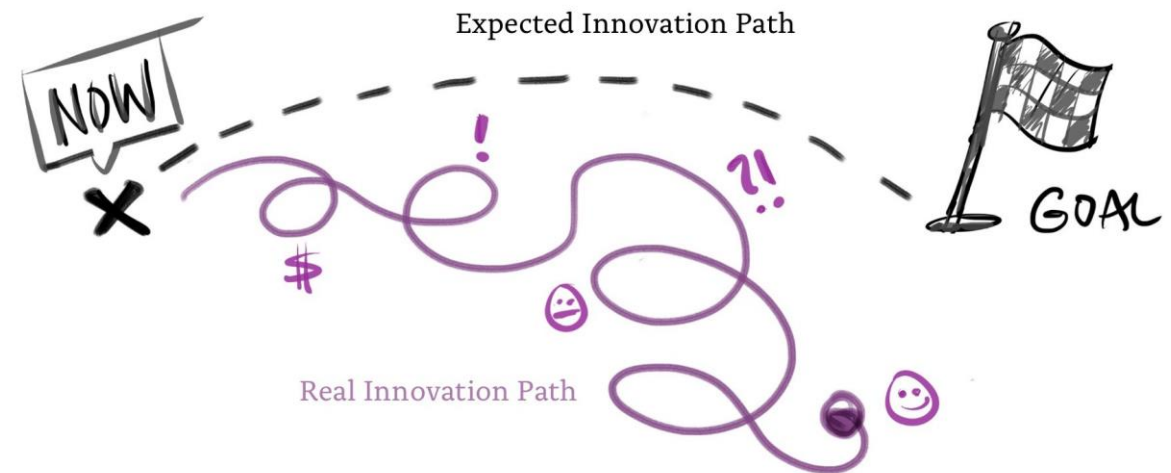
- **Wat betaalt de eindklant voor 2-richtingsverkeer?**
 - Flexibiliteit heeft waarde op verschillende niveaus
 - Elektron moet door LV, MV en HV ... om te concurreren met eentje die enkel door HV moet

Enkel zo begint het ...

- Gewoon doen

- Buurtbatterij
- Slim laden
- warmtepompen in de grotere woningen
- PV
- Net onafhankelijk

Living Street Lab ...



Vragen?



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32



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